The Three Approaches to Value

A Self-Study Course for Assessors and Appraisers

Revised by Property Tax Division
Oregon Department of Revenue
June 2007

OREGON DEPARTMENT OF REVENUE

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Introduction

There are three ways to estimate value for real property. You can estimate the cost of building a similar structure on a similar lot. You can estimate the value based on the income the property would earn. Or you can compare the property with other similar properties that have recently sold. This course is designed so you will learn to decide which of these approaches is most likely to give the best evidence of value.

As an appraiser for an Oregon county or the Department of Revenue, or an assessor, it is your duty to place a value on each parcel of real property (land, buildings, and other improvements) within your county.

The purpose of this course is to teach acceptable methods for estimating a value for property assessment purposes. You will work through these materials at your own speed, without a teacher. When finished, you will be able to use these methods of appraisal in a professional manner.

This course of instruction will ask you to respond after each question. The answers to your questions can be found in the Answer Section located at the end of each lesson.

Here are three tips for using this material effectively:

1) Work no more than one or two hours at one time.
2) Do not allow too much time to go by between study sessions. After a couple of days you may not recall some of the material and will need to review before proceeding.
3) Put what you learn to work immediately. You do not have to wait until you finish the course.

Now go ahead to Lesson 1. Good luck!

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Introduction to the Approaches to Value

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Introduction

Lesson 1: How Value Affects Property Taxes

In Oregon, property taxes are the primary funding source for police, fire protection, education and other services provided by local taxing districts, such as cities, counties, and schools. Taxation limitation measures passed in the 1990s dramatically changed the way property taxes are calculated in Oregon.

History

Prior to taxation measures passed in the 1990s, county assessors estimated the real market values of all taxable property in the state. Generally speaking, the full market value of property was taxable; there was no separate definition of assessed value. In other words, taxes were based on a property's estimated market value. The market value was also the assessed value.

The passage of Measure 5 in 1990 cut tax rates by introducing tax rate limits. Measure 50 passed in 1997 cut taxes, introduced a maximum assessed value as the taxable value limit established for each property, and replaced most tax levies with permanent tax rates. Because real property is taxed on its assessed value, Measure 50 established the assessed value as the lower of its real market value or its maximum assessed value.

Your Assessment

The amount of property tax you pay is based on two things: 1) the assessed value of your property, and 2) the amount of taxes that each taxing district is authorized to raise. The Oregon Constitution places limits on both of these factors. It establishes a maximum assessed value and limits the increase of this value on an annual basis. The constitution also places a limit on tax rates for most of the taxing districts in the state. In this lesson, you will learn how value affects the taxes paid by owners of real property. Real market value and maximum assessed value are defined below.

Real Market Value (RMV)

Oregon law says the assessor must value all property at 100 percent of its real market value. Real market value (RMV) is typically the price your property would sell for in a transaction between a willing buyer and a willing seller on January 1, the assessment date for the tax year. To estimate the initial RMV for your property, your county assessor appraises your property using a physical inspection and a comparison of market data of similar properties. For ensuing tax years, your county assessor will study trends of similar properties to update the RMV for your property. Some property, such as farm or forest land, may be subject to special valuation processes.

Maximum Assessed Value (MAV)

A property's maximum assessed value (MAV) is the taxable value limit established for each property. The first MAV for each property was set in the 1997-98 tax year. For that year, the MAV was the property's 1995-96 real market value minus 10 percent. For example, if a residential property had a real market value of $100,000 for the 1995-96 tax year, its 1997-98 MAV would have been $90,000. Thereafter, the MAV increases are limited to 3 percent annually, unless certain restrictions apply, it does not meet the annual MAV test against the new RMV, or there is significant new property or new improvements to the property.

Taxes can increase for only certain reasons: the 3 percent annual increase in the MAV calculation, specific property events (usually new construction), or passage of voter approved special levy options such as public safety operations, or bonded indebtedness, i.e. school bonds, library bonds, etc. For a more detailed explanation of MAV and potential value and tax increases, refer to Oregon statutes beginning with ORS 308.146.

Paying taxes

1.1

Let's talk a little about taxes. Not all taxes are alike. For instance, take your Federal Income Tax. The more money you make, in general, the more tax you pay. Mr. Allen makes $58,000 a year. His neighbor, Mr. Brown, makes $64,000 a year.

Which man do you think probably pays more Federal Income Tax? (Decide on your answer and then check your answer in the Answer Section at the end of this lesson.)

_____ (Mr. Allen/Mr. Brown)

1.2

Mr. Brown and Mr. Allen both live in a state where they pay sales taxes. Mr. Brown, who makes $64,000 a year, buys a new color TV for $1,000. The sales tax, at 7 percent, is $70.

Mr. Allen, who makes $58,000 a year, goes to the TV shop to buy a $1,000 color TV for himself. How much will he pay in sales tax?

$_____. ($58/$70)

Mr. Brown has more money than Mr. Allen, but when he pays a sales tax on the same item, he pays the same tax.

This is also true of taxes on real property. You will see that shortly. But first, let us see what we mean by real estate or real property.

1.3

You cannot understand taxes on real estate unless you understand real estate. Real estate—or real property—is land and improvements to land. A building, a tower, or an in-ground swimming pool are examples of improvements to land.

Are the following real property?

a. A pasture Yes/No

b. An empty lot in town Yes/No

c. A barn Yes/No

d. A gas station Yes/No

e. A house Yes/No

f. The furniture in a house Yes/No

1.4

In general, personal property can be moved around easily. If you move to Florida, you take your personal property with you. Could you take your real property with you to Florida?

_____. Yes/No

1.5

In general, taxes on real property have nothing to do with the owner's ability to pay.

Suppose the assessor has placed an assessed value of $220,000 on both Mr. Brown's house and Mr. Allen's house. Neither is entitled to any exemptions on property taxes.

Which of the following is true?

a. Mr. Brown will pay more property tax than Mr. Allen.

b. Mr. Allen will pay more property tax than Mr. Brown.

c. Both Mr. Brown and Mr. Allen will pay the same.

1.6

Mr. Allen makes $58,000 and Mr. Brown makes $64,000. Yet they pay the same property tax. It may seem unfair. But remember, this tax is not on their incomes. It is on their real property. It is based on the fact that the tax assessor has placed an assessed value of $220,000 on both houses. The law requires that property taxes be levied on the assessed value of the property.

If the assessor gave Mr. Allen a break and appraised his house for less than its value, the assessment would be (within/outside) the law.

_____.

The store owner cannot charge a poor man 3 percent sales tax on a TV, and charge a rich man 7 percent. The tax is 7 percent for all.

The assessor cannot place a low value on one property and a high value on another unless their values really are that different!

And this raises an important point. Just what is value? How did the assessor decide that Mr. Brown's house was valued at $220,000? The following section will discuss property value.

What is value?

1.7

The word value can mean many things. As you will use it in placing a value on real property, it will mean just one thing.

The value of real property for tax purposes is what a willing buyer would typically pay a willing seller for it.

(Later on, we will take up what we mean by willing buyer and willing seller.)

Take a simple example. Mr. Jones puts his house on the market at $235,000. Along comes Mrs. Smith and offers $230,000. Jones accepts and agrees to sell Mrs. Smith his house for $230,000.

From this one sale, what is the indicated value of Mr. Jones' house?

_____. ($235,000/$230,000)

1.8

Mr. Martin built a house for $75,000. Fifteen years later, he sold it for $225,000. He was under no pressure to sell, and the buyer paid the price willingly.

1. What was Mr. Martin's cost when he built the house? _____.
2. At the time he sold it, what was the indicated value of Mr. Martin's house? _____.

1.9

You can see that cost and value is not always the same thing.

You could say, "But Mr. Martin only paid $75,000 for the house. A person would be a fool to pay three times that." But that is not what the rule says. Look at it this way.

1. Did Mr. Martin sell willingly? _____. (yes/no)
2. Did the buyer pay $225,000 willingly? _____. (yes/no)
3. What is the amount a willing buyer paid a willing seller? $ _____.
4. What is the indicated value of the house? $ _____.

1.10

Mr. Burns put his house on the market at $250,000. One person offered $200,000. Another offered $225,000. Another offered $210,000. Mr. Burns refused all three offers. He said he would not take less than $250,000.

Mr. Burns is a willing seller at $250,000. Is there a willing buyer at $250,000?

_____. (yes/no)

1.11

Several people seem to want to buy Mr. Burns' house. The highest offer was $225,000.

1. Was there a willing buyer at $225,000? (yes/no)
2. Was there a willing seller at $225,000? (yes/no)
3. Can you say the value of Mr. Burns' house is $250,000? (yes/no)
4. Can you say the value of Mr. Burns' house is $225,000? (yes/no)

1.12

An indicated value is established on a property when there is a willing _____ (realtor/buyer) and a willing _____. (seller/contractor)

1.13

If every property sold every year, the assessor's job would be easy. Every property bought by a willing buyer from a willing seller would have an indication of value. The assessor could simply adjust upward or downward for the conditions of the sale and put that value into their records.

But every property does not sell every year. Think about your community. What portion of the properties have sold in the last 12 months? One in 10? Three in 10? Your best guess is probably not a very large percent of them sold in the last year. That would be true in most places.

It is clear, then, that an assessor cannot get an indicated value for most properties they must appraise. The reason is that most of them have no willing buyer and willing seller at any given time.

When you cannot get an indicated value, you have to get an estimated value. This takes some special skill. This skill is what you will be learning in this course.

Estimating value

1.14

Suppose you want to buy a 3-year-old small pickup truck. You want to find out about how much you will have to pay for one.

You visit three used car lots. You see one such truck priced at $16,500. Another is $17,950. A third is $18,500.

1. What is the most you will probably have to pay for the type of truck you want?

_____ ($16,500/$17,950/$18,500)

2. What is the least you can probably pay for such a truck?

_____ ($16,500/$17,950/$18,500)

1.15

You can see that value can be estimated even when there is no known value. But estimating a value does not actually give that value to the property.

Suppose an assessor appraises the value of a property at $220,000.

1. Does that mean the owner cannot get more than $220,000 for it? _____ (yes/no)
2. Does it mean that someone will definitely pay as much as $220,000 for it? _____ (yes/no)

1.16

The estimate of value is only an estimate. We use our skill to estimate what a willing _____(contractor/buyer) would pay a willing _____ (seller/lessor).

1.17

For assessment purposes, the value of any property is an estimate of what amount?

_____

_____

_____ (your own words).

Lesson 1: Answers

1.1

Mr. Brown

He probably pays more because he makes more.

1.2

$70

He pays the same tax as Mr. Brown.

1.3

a, b, c, d, e

All are real property except f., furniture, which is an example of personal property.

1.4

No

You cannot move land, and most improvements would be hard to take that far.

1.5

c. Both pay the same

1.6

Outside

1.7

$230,000 (What a willing buyer did pay a willing seller.)

1.8

1. $75,000
2. $225,000 (What a willing buyer paid a willing seller.)

1.9

1. Yes
2. Yes
3. $225,000
4. $225,000

1.10

No (No one wants to pay what Burns is asking.)

1.11

1. Yes
2. No
3. No (There is no willing buyer at this price.)
4. No (There is no willing seller at this price.)

1.12

Buyer ... seller

1.14

1. $18,500

2. $16,500

1.15

1. No

2. No

1.16

buyer ... seller

1.17

The amount a willing buyer would typically pay a willing seller.

Introduction

Lesson 2: Selecting Your Approach

Introduction

You have learned that an appraiser working for a county assessor estimates the value of real property for tax purposes. They estimate what a willing buyer would typically pay a willing seller. In this lesson, we will introduce the three standard approaches to value. These are the ones used by all professional assessors and appraisers. You will learn how to choose the best approach for different situations. And you will learn how you can use two or even three approaches to value when appraising one property.

The Sales Comparison Approach to Value

The approach to value which often works best is called the sales comparison approach. It is sometimes called the market approach. When using this approach, you first must obtain actual sales information on properties similar to the property you are appraising. After analyzing this information, you arrive at an estimate of value. Let us take a closer look at the sales comparison approach.

What is market data?

2.1

Market data is information about property prices. It includes offers to buy or sell real property and actual sales prices.

Which of the following are examples of market data? (Check one or more.)

_____a. Ben Sitz puts his farm up for sale at $590,000.

_____b. Sharon Miller offers to buy the Petersons' house for $340,000.

_____c. Jack O'Brien sells his gas station to Abe Gitlitz for $440,000.

2.2

Just any market data does not provide enough information to make a good estimate of value. You must have data on properties that are very much like the one you are appraising.

Suppose you want to appraise a 3-bedroom house. Which of the following properties could you compare to it to find its value? (Check one or more.)

_____ a. An apartment house

_____ b. A farm

_____ c. A restaurant

_____ d. Another 3-bedroom house

2.3

You can estimate the value of one property by comparing it with another which has similar features and has recently sold. Such a property is called a comparable property. (Pronounced COMP-er-able, not com-PAIR-able.) A comparable property is a similar property which can be compared to the subject property—the property being appraised.

Suppose you want to appraise a 4-bedroom, 2-bathroom house. Which of the following properties is the most comparable? (Check one.)

_____ a. A 2-bedroom 1-bathroom house

_____ b. A 3-bedroom 3-bathroom house

_____ c. A 4-bedroom 2-bathroom house

2.4

There seems to be a rule about this. The rule is: the best comparable property is the one that is _____(most/least) like the one being appraised.

2.5

Using the sales comparison approach, you must have two or more properties to consider. The one you are appraising is the subject property. The ones you are comparing are the comparables, or comps.

Select either subject property or comp for the following properties:

Property A

3-bedroom house sold six weeks ago for $255,000. (subject / comp)

Property B

3-bedroom house now being appraised for tax purposes.

(subject / comp)

Property C

3-bedroom house for sale at $360,000. Highest offer to date: $340,000.

(subject / comp)

When to Use the Sales Comparison Approach

2.6

As you can see, you must be able to find comparable properties to use the sales comparison approach. You cannot compare the subject property with comparables unless there is sales information on the comparables.

In which of the following cases would you get the most reliable estimate of value by using the sales comparison approach? (Check one or more.)

_____ a. You have to appraise the only bowling alley in town.

_____ b. You have to appraise a 5-bedroom house. The biggest house in town to sell in the last 3 years has 3 bedrooms.

_____ c. You have to appraise a 2-bedroom house. Four houses very much like it have sold in recent months.

2.7

To use the sales comparison approach, you must have two conditions.

1. There must be _____ (contradictory/comparable) properties.
2. There must be _____ (sales or market/listing) data on such property.

2.8

The sales comparison approach to value is generally the preferred approach to use for estimating value. It works more often than the other two. But you cannot always use it.

To use the sales comparison approach, there are two conditions which must exist. Check these two conditions on the list below.

_____ a. You must know the cost of the subject property.

_____ b. There must be comparable properties.

_____ c. You must know how much income could be obtained from comparable properties.

_____ d. You must have sales data on comparable properties.

The Income Approach to Value

The sales comparison approach to value will not always work. When it will not work, you have to use another approach such as the income approach. This approach to value is based on the potential income that the property could earn for its owner.

2.9

Which of the following types of property could earn income for their owners? (Check all that apply.)

_____ a. A church

_____ b. An apartment house

_____ c. A store property

_____ d. An office building

2.10

The potential income a property can earn can be used to estimate a value for it.

Here is an example. A one-story store building in a small town rents for $24,000 a year. The owner's expenses are $14,000 a year. Their net income (what is left) is $10,000 a year.

You have some money to invest. It is now in the savings bank, and you earn 5 percent a year on it.

1. Would you pay $180,000 for this store property? (Calculate what you could get at the bank before you answer. Do not take risk into account.) _____.
2. Would you pay $210,000? _____.
3. Would you pay $230,000? _____.

2.11

An investor typically will not pay more for an income property than it is worth to them. If you can earn 6 percent on your money invested in bonds, would you buy a building on which you can earn 4 percent? _____. (yes/no)

2.12

The value of an income property is typically determined by the income it can potentially earn. Thus, if the appraiser can confirm what the income is—or estimate what it could be—they can estimate the value of the property using the _____ (sales comparison/cost/income) approach.

2.13

To use the sales comparison approach, you must be able to obtain reliable data on sales of comparable properties.

If you cannot get such information, you may be able to use the income approach to estimate value. In this case, the property must be one which typically could or does produce _____. (income/comparables)

Sometimes you will have to appraise a property and no sales data on comparable properties can be found. You determine the sales comparison approach is not valid due to a lack of comparable sales, but the income approach is appropriate due to the amount of rental data available.

Sometimes you will not have enough information to use the income approach either. If the property is one that would not normally produce income, you should not use the income approach, e.g. single family home.

There are three standard approaches to value. If you cannot use either the sales comparison or the income approach, you will have to use the third. That is the cost approach, which you will learn about in the next section.

The Cost Approach to Value

2.14

The third way to estimate value is to answer the question, "What would it cost to build a structure like this one?"

For example, suppose you appraise a single family house built in 1925. After much research, you conclude that one just like it could be built at a cost of $120,000.

The value of that house on a cost basis, then, is how much? _____. ($120,000/$100,000)

2.15

You can see right away that there can be problems with using just cost. The main issue is that the house was really built in 1925, not today. It is worn. A new one would not be worn. The loss in value from age and wear is called depreciation.

A more appropriate estimate of value can be developed by estimating the cost to replace the structure, minus depreciation.

Here is an example. Fill in the blank line below.

$120,000	Cost to replace
- 40,000	_____
$ 80,000	Value, on a cost basis

2.16

To estimate the value of a property on a cost basis, you first must determine how much it would cost to _____ (replace/remodel) it.

2.17

From the replacement cost for the property, you deduct the amount the market recognizes as _____ (comparison/depreciation) caused by age and wear.

The cost approach can be difficult to use. You have to know a lot about construction. You also have to know a lot about depreciation. And even if you do know a lot about both, you are still estimating, just as in the other approaches.

You have to estimate replacement cost. Then you have to measure market depreciation.

Let us examine another problem that an appraiser encounters when using the cost approach.

2.18

Mrs. Miller, a 75-year-old widow, lives up on the hill in a 14-room Victorian house built in 1890. It has seven bedrooms, a parlor, a butler's pantry, and six fireplaces. To build such a house today would cost a fortune.

Suppose you use the cost approach on this house. How likely is it that Mrs. Miller, or anybody else, would have the house replaced exactly as it is now? _____. (not very likely/more than likely)

2.19

What is the point in estimating the replacement cost of a building no one would want to replace? _____. (good office practice/not much point)

2.20

The cost approach can be difficult to use. There are many situations where it is not appropriate to use. But sometimes it works better than the income or sales comparison approach. Here is an example:

A shopping center is being built in a small community, and you have an assignment to appraise it. It is framed, the roof is on, and the walks, partitions, and parking are currently being built.

1. Can you use the sales comparison approach? _____ (yes/no)
2. Explain your answer to #1. _____ _____
3. Can you use the income approach? _____ (yes/no)
4. Explain your answer to #2. _____ _____

2.21

The incomplete shopping center would typically be appraised using the cost approach—because there is not enough valid data to use other approaches that will result in a valid estimate of value.

The cost basis can be used in other situations, too. New single family houses can be appraised on a cost basis. So can special purpose buildings such as hospitals, nursing homes, and industrial manufacturing facilities.

In general, the cost basis of estimating value is appropriate (when other approaches will not work/regardless of the type of property).

Review

2.22

You have been introduced to three standard approaches to value. List them below.

1. _____.
2. _____.
3. _____.

2.23

1. The approach to value that will most often produce the best result is the _____ (cost/income/sales comparison) approach.
2. When there is no sales data available and the property is income producing, you then would try to apply the _____ (cost/income/sales comparison) approach.
3. If the subject property cannot be compared with others like it that have sold, and does not produce income, you would use the _____ (cost/income/sales comparison) approach.

Using More Than One Approach

There is usually one approach to value which is best for each property. By "best," we mean it gives you the most valid estimate of value.

Assessors and appraisers usually use more than one approach on a single property when possible. The reason is to check one estimate against the other to be sure the value estimate is correct. Let us see how this works.

2.24

An appraiser estimates the value of a 1-year-old house in a newer development. Houses just like it in the neighborhood are selling in the range of $350,000 to $360,000.

The appraiser determines that a value of $355,000 is appropriate for the subject property. The appraiser estimates the land is worth $55,000. The value of the house alone, then, would be $_____.

2.25

The appraiser in this case is not absolutely sure they are right about this estimate of value. They want to use a second approach as a check against the first approach. (Keep in mind that the appraiser is appraising a 1-year-old house in a development.)

Which other approach would you recommend the assessor use? _____. (cost/income/sales comparison)

2.26

In this case, the appraiser's job is easy. The builder who built the subject property is still developing other areas. In fact, they are building houses just like the subject property, but in another comparable area.

The builder informs the appraiser that their cost including profit on that model is now about $303,000, not including land.

In this case, the cost approach showed that the sales comparison approach was _____ (valid/invalid).

2.27

Here is another example. A shopping center costs $3 million to replace, including the land. It was assessed using the cost approach. The assessor wanted to check the appropriateness of the assessment and used the income approach as a check. The shopping center has not been very successful. The assessor determined that a prudent investor would pay $2,225,000 for the center based on its actual annual income.

The income approach, in this case, showed that the cost approach overestimated the value of the shopping center.

By using the income approach as a check against the assessed value, the assessor determined that the cost approach was _____. (valid/invalid)

Practice

In assessment work, you will often use two and sometimes all three approaches to value. In most cases, one approach will give you the best estimate of market value, depending on the property type. In each of the next eight questions is an example of a property you might be asked to appraise. In each situation, decide which of the three approaches to value would probably give you the best estimate of value.

2.28

A 40-year-old single family residence occupied by the owner and his family.

Best approach: _____.
(cost/sales comparison/income)

2.29

The headquarters building of the Loyal Order of Moose. (cost/sales comparison/income)

Best approach: _____.

2.30

Land on which a tenant operates a very busy parking lot. (cost/sales comparison/income)

Best approach: _____.

2.31

A store building with two floors of apartments above the store. (cost/sales comparison/income)

Best approach: _____.

2.32

A 20-year-old duplex. (cost/sales comparison/income)

Best approach: _____.

2.33

Suppose you find there is no market data on duplexes. (cost/sales comparison/income)

What's the next best approach?
_____.

2.34

A manufacturing plant built in 1870 for textiles. It is now occupied by a tenant, an electronics company. There are no other factories in town. (cost/sales comparison/income)

Best approach: _____.

2.35

A dairy farm, occupied and operated by the owner. (cost/sales comparison/income)

Best approach: _____

Lesson 2: Answers

2.1

All three are examples of market data. (The first is an offer to sell. The second is an offer to buy. The third is an actual sale.)

2.2

d. Another 3-bedroom house

2.3

c. a 4-bedroom, 2-bathroom house

2.4

Most

2.5

Property A: Comp

Property B: Subject property

Property C: Comp

2.6

c. You have nothing to compare with the bowling alley and no 5-bedroom houses have sold. To use the sales comparison approach to appraise the bowling alley or the 5-bedroom house, you will have to get data from other areas.

2.7

1. Comparable

2. Sales or market

2.8

b. There must be comparable properties

d. You must have sales data on comparable properties

2.9

All properties could earn income by being rented.

2.10

You can do as you please, but:

1. If you buy the store at $180,000, you will earn $10,000 a year instead of $9,000 at the bank.
2. If you buy the store at $210,000, you will earn $10,000 a year instead of $10,500 at the bank.
3. If you buy the store at $230,000, you will earn $10,000 a year instead of $11,500 at the bank.

In other words, at any price up to $200,000, it's a good deal. If you pay over $200,000, you are losing money.

2.11

No (You probably would not.)

2.12

Income

2.13

Income

2.14

$120,000

2.15

Depreciation

2.16

Replace

2.17

Depreciation

2.18

As you wish. We think it's not very likely.

2.19

We think there is not much point. (But sometimes the assessor must do it because it is the only available way they have of arriving at a value estimate.) The sales comparison approach would be more appropriate in this instance to estimate the market reaction to this type of house.

2.20

1. No
2. (In your words) You would have to have sales data on similar incomplete shopping centers which have sold.
3. No
4. (In your words) The incomplete building cannot produce income.

2.21

When other approaches will not work

2.22

(Any order)

1. Sales Comparison
2. Income
3. Cost

2.23

1. Sales comparison
2. Income
3. Cost

2.24

$300,000

2.25

The cost approach is best. (Most single-family homes are not used as income properties.)

2.26

Valid

2.27

Invalid

2.28

Sales comparison (If you can find comps that have sold.)

2.29

Cost (There are no comps, and it produces no income.)

2.30

Income (Use the net rental derived from the land.)

2.31

Income (This approach could be checked with the sales comparison approach—but the question here is which approach would probably give the best estimate.)

2.32

Sales comparison

2.33

Income

2.34

Income

2.35

Sales comparison

Introduction
Lesson 3: Calculations

Introduction

A good appraisal generally requires the use of area measurements in some way. We compare lot sizes by square footage. We give construction costs by price per square foot.

You must be able to compute the area of lots and the amount of floor space in buildings. Many lots and buildings will be rectangular in shape, but there are some that are irregularly shaped.

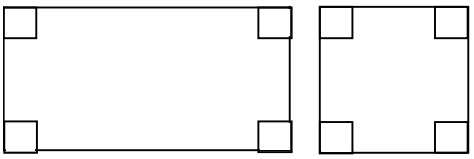
This chapter will show you how to compute the area of regular and/or irregular shapes, land parcels, or structures.

Finding the Area of a Regular Figure

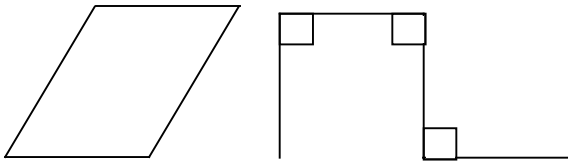
Rectangles

A closed figure with four sides and all square corners is a rectangle.

Which of the following figures are *not* rectangles?



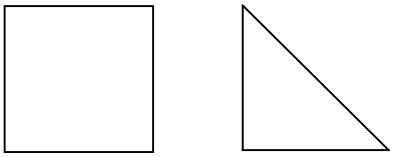
1 2



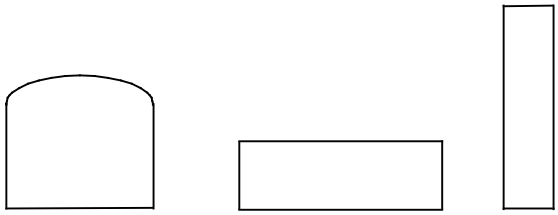
3 4

You will see that #3 does not have square corners and that #4 is not a closed figure.

Which of the following *are* rectangles?



1 2



3 4 5

Numbers 1, 4, and 5 are all rectangles.

Squares

A square is a rectangle with all sides the same length.

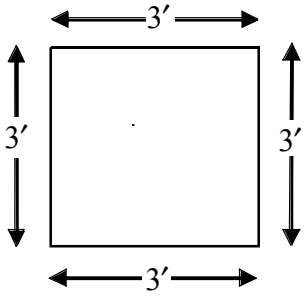


Figure 1

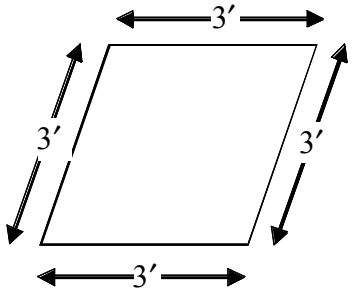


Figure 2

3.1

Figure 1 is a square. Figure 2 is not a square. Why is figure 2 not a square? _____

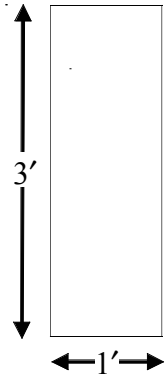
_____

(in your own words).

Area

3.2

Area is the space contained in a closed figure. Area is measured in square units.



The area of the figure above is _____ (3 feet/3 square feet/4 square feet)

3.3

A square with 1-foot long sides covers an area of 1 square foot. For example, a ceramic tile that is 1 foot long by 1 foot wide covers 1 square foot of floor. Look at Figure 1 below. It represents 1 square foot.

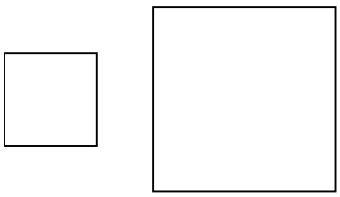


Figure 1 Figure 2

How many squares the size of Figure 1 will fit in Figure 2? _____ (1/2/3/4)

3.4

Figure 1 below contains 6 square feet. You can multiply 2′ times 3′ to get 6 square feet. Multiplying length and width of a rectangle gives the number of square units covered by the figure. This is known as the area of the figure.

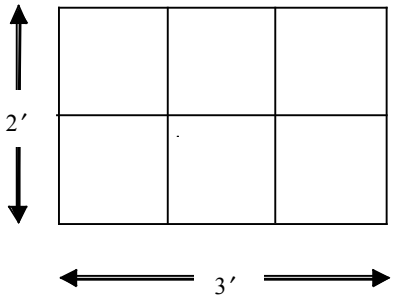


Figure 1

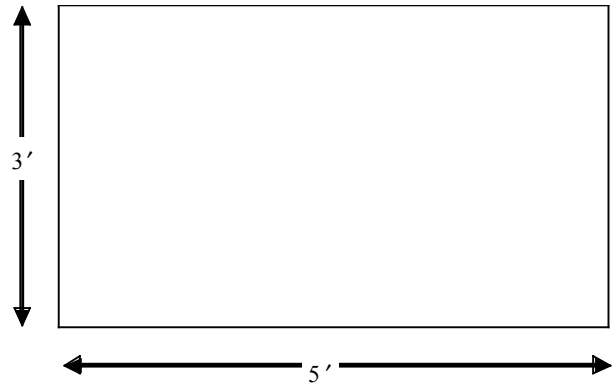


Figure 2

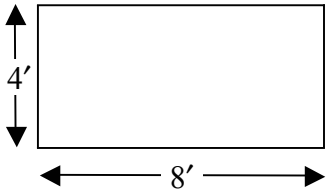
What is the area, in square feet, of Figure 2?

_____ (8 sq. ft./15 sq. ft./6 sq. ft.)

3.5

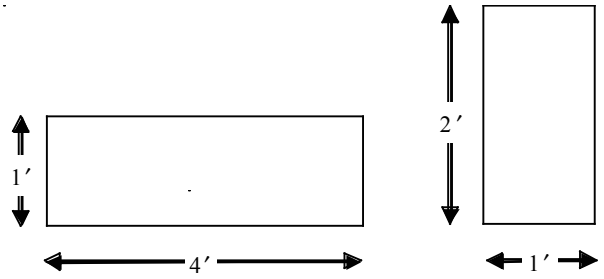
Find the area of a bathroom with dimensions as given below. _____

Choose one: 12 sq. ft./32 sq. ft./24 sq. ft./32 ft.

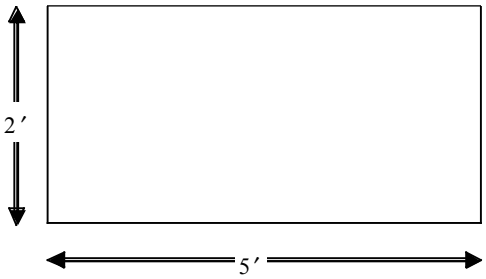


3.6

Compute the area of the following figures.



1 2



3

Figure 1 _____
(4 square feet/4 feet/5 square feet)

Figure 2 _____
(3 feet/3 square feet/2 square feet)

Figure 3 _____
(10 feet/10 square feet/7 square feet)

Using like measures

3.7

When we compute area, all of the dimensions used must be given in the same unit of measurement. If one dimension is given in inches and the other in feet, one of the dimensions must be converted. For instance, a room is 60 inches wide by 9 feet long. We must change the 60 inches to 5 feet by dividing by 12, or change the 9 feet to 108 inches by multiplying by 12. Generally, in appraising, we use feet as our basic unit. So the room is given as 5′ by 9′.

9 feet by 72 inches becomes 9 feet by

_____ (6 feet/8 feet/9 feet)

3.8

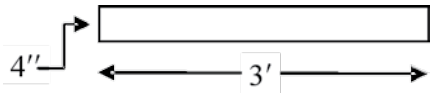
Which of the following pairs can be multiplied together to get area?

1. inches x inches
2. inches x feet
3. feet x yards
4. yards x inches
5. feet x feet

Choose one: all of the above/only #1 and #5/all but #1 and #5

3.9

Find the area of the figure below.



Choose one: 12 square feet/1 square foot/144 square inches

3.10

Compute the area of the following figures:

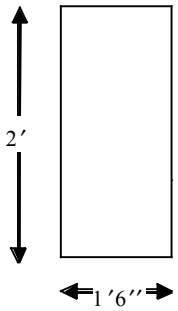


Figure 1

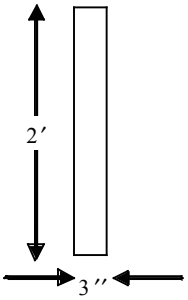


Figure 2

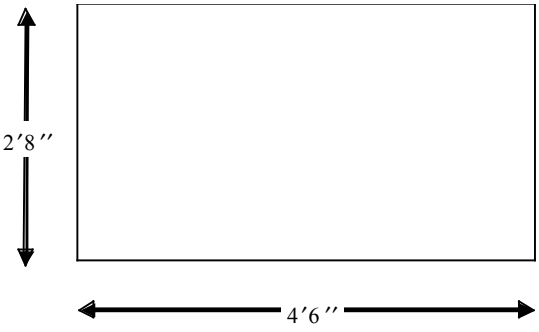
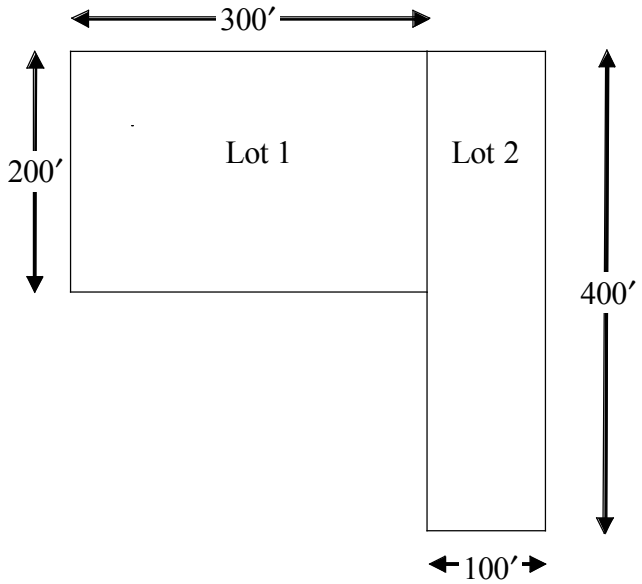


Figure 3

Area of irregular figures

3.11

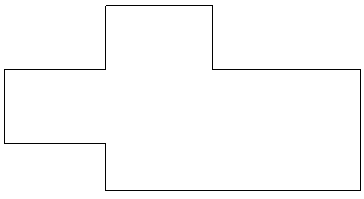
Sometimes lots are combined. This can produce irregular figures. For example, the following is a sketch of two adjoining lots.



1. What is the area of Lot 1? _____
2. What is the area of Lot 2? _____
3. What is the total area of both lots? _____

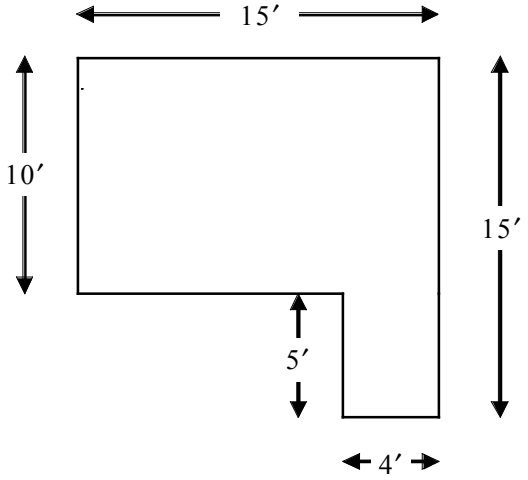
3.12

You calculated the total area of two rectangular lots by adding together their separate areas. Make three rectangles by drawing two lines in the irregular figure below.



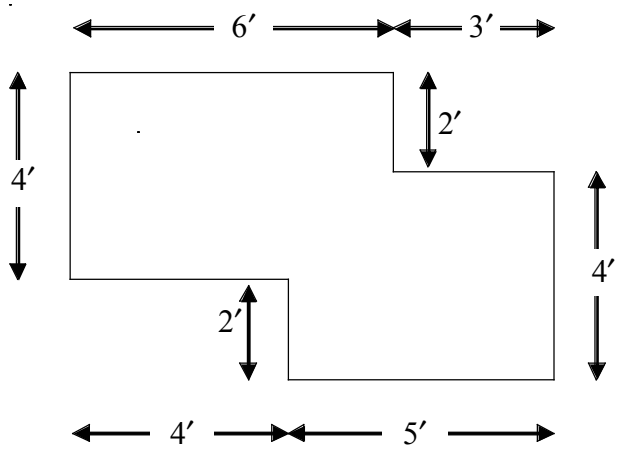
3.13

Divide the following figure into rectangles and find the total area of the figure. _____ sq. ft.

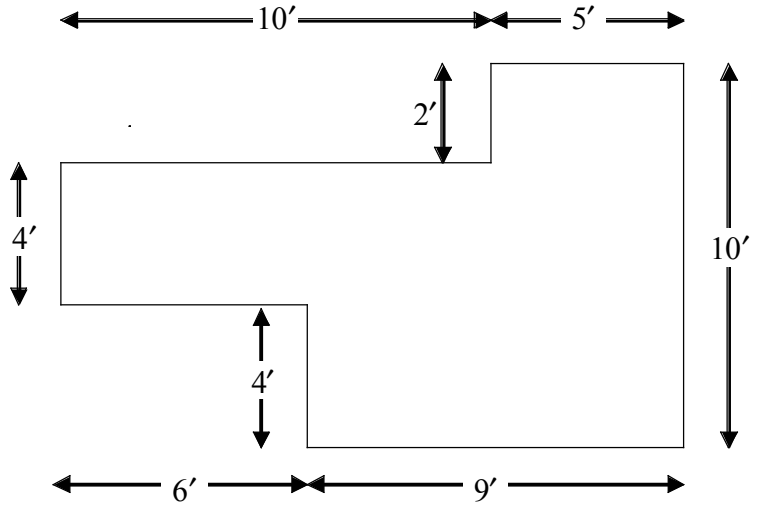


3.14

Find the total area of each of the following lots.



Lot 1



Lot 2

3.15

When two lines meet to form a square corner (right angle), they are said to be perpendicular.

Look at Figure 1. Lines AB and CD are perpendicular.

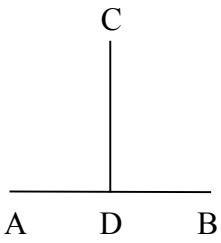


Figure 1

Look at Figure 2. Are lines AC and BD perpendicular? Yes, they meet to form a right angle or square corner.

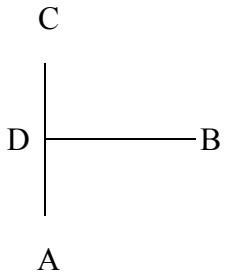
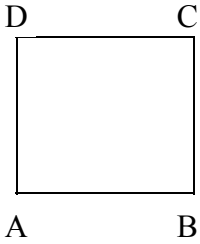


Figure 2

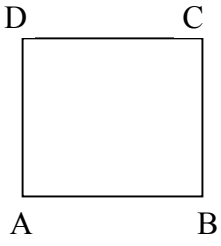
In the figure below, what lines are perpendicular to AB? _____

(line CB or BC/line AD or DA/line CD or DC)

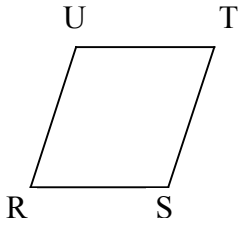


3.16

The rectangle below is sitting on side AB. The side a figure rests on is usually called its base.



What side is most likely called the base in the figure below? _____



(line RU or UR/line UT or TU/line RS or SR/line ST or TS)

3.17

Look at Figure 1 below. A line, DE, begins at corner D and is perpendicular to the base AB. The length of line DE is the height of Figure 1. We call line DE the altitude of Figure 1. An altitude must meet two conditions: (1) begin at the highest point opposite the base; (2) be perpendicular to the base.

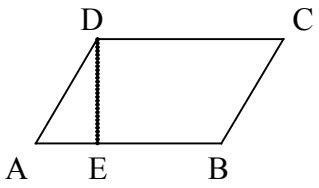


Figure 1

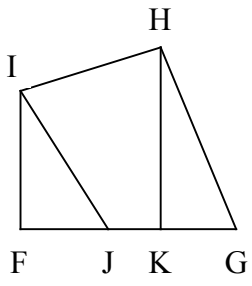


Figure 2

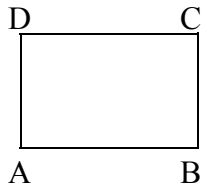
What line is the altitude to the line FG in Figure 2? _____

(line IF/line IJ/line HK/line HG)

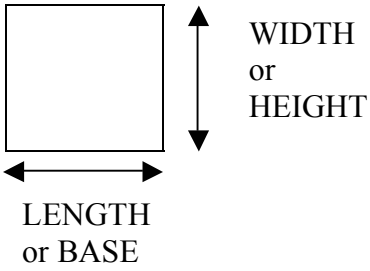
3.18

Look at the following rectangle. AB is the base. Which line is the altitude? _____

(line AB/line AD/line DC/line BC)



Look at the figure below. We have given two names to each dimension of the rectangle.



The lengths of the dimensions have not changed. The products of these dimensions are not different if we multiply base x height instead of length x width. The area remains the same.

3.19

All lots are not rectangles. Two lines that are the same distance apart throughout their lengths are called parallel lines. When a figure has both pairs of opposite sides parallel and equal, it is called a parallelogram.

Figure 1 is a parallelogram.

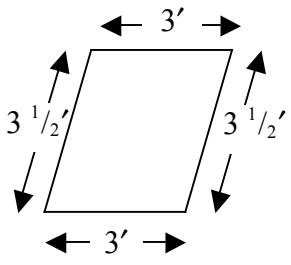


Figure 1

Is Figure 2 a parallelogram? _____ (yes/no)

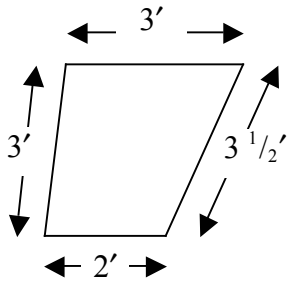


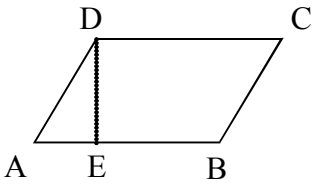
Figure 2

3.20

Look at the following parallelogram.

What line is the base? _____ (AE/AB/EB/AD/DC/CB)

What line is the altitude or height? _____ (AE/AB/EB/DE/AD/DC/CB)



3.21

Imagine the triangular section A on the left side of Figure 1 below being moved to the right hand side to make Figure 2.

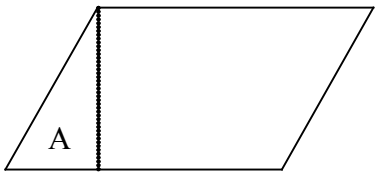


Figure 1

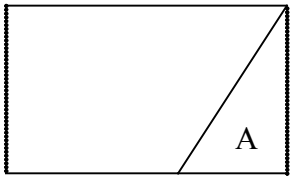


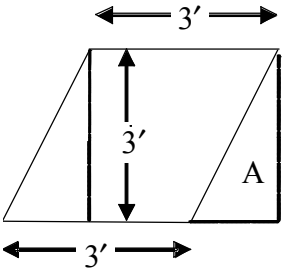
Figure 2

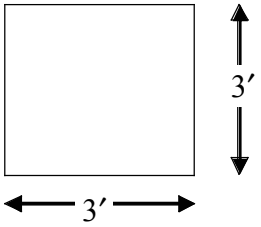
1. Is Figure 1 a rectangle? _____ (yes/no)
2. Is Figure 2 a rectangle? _____ (yes/no)
3. Is the area of the two figures equal? _____ (yes/no)

3.22

Look at the two figures below. The areas are equal.

1. Are the bases equal in length? _____ (yes/no)
2. Are the heights equal? _____ (yes/no)

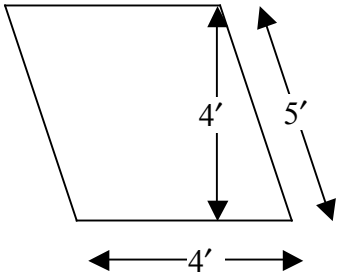




3.23

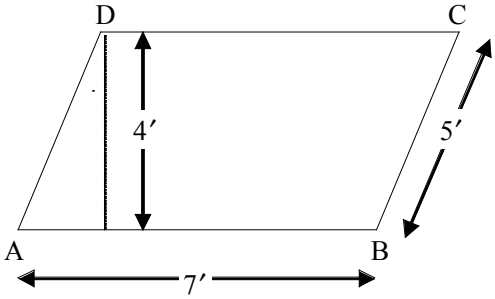
The area of a parallelogram can be found by multiplying the length of the base by the height.

Find the area of the figure below.



3.24

Find the area of the figure below.



3.25

Find the areas of the figures below:

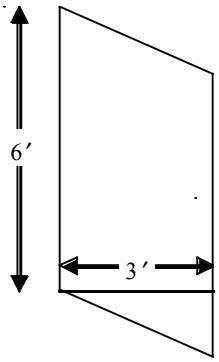


Figure 1

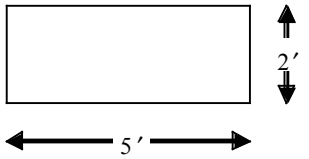


Figure 2

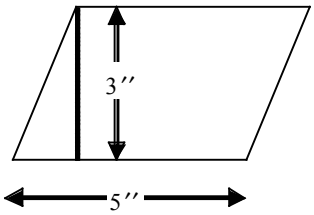
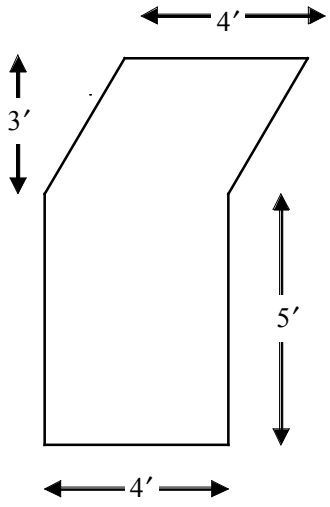


Figure 3

3.26

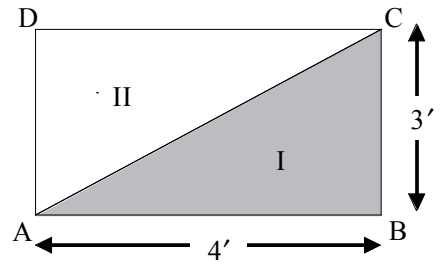
Find the area of the figure below. (Remember you can make simple figures from composite figures by drawing lines.)



Finding the area of triangles

3.27

Look at the rectangle below. It has been cut into two identical triangles, Triangle I (shaded) and Triangle II (unshaded).



1. What is the area of the rectangle?
2. What part of the area of the total figure is the area of Triangle II?

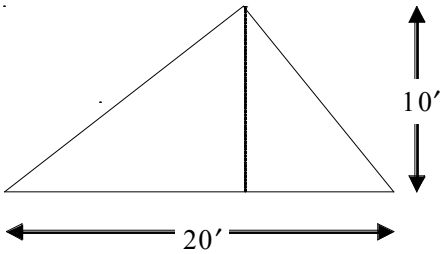
3.28

The area of a triangle can be found by multiplying its base times its height and dividing by two.

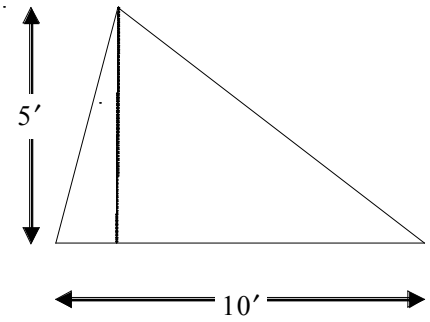
$$A = \frac{bh}{2}$$

In Figure 1 below, the area can be found like this:

10′ x 20′ = 200 sq. ft. ÷ 2 = 100 sq. ft.



Find the area of the triangle below.



3.29

Find the areas of the triangles below.

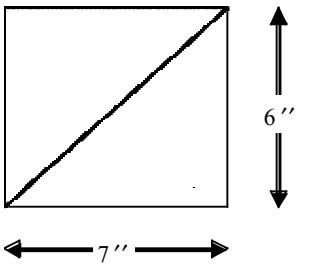


Figure 1

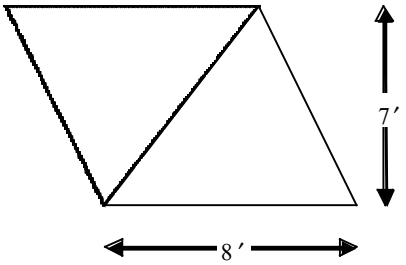


Figure 2

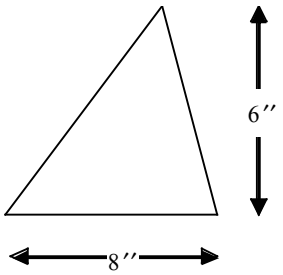
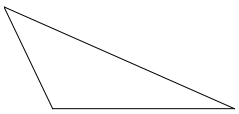


Figure 3

3.30

Suppose the triangle looks like this:



We can get the height by dropping a perpendicular to the extension of the base line as illustrated in Figure 1 below. Look at Figure 2. It is the same triangle rotated so that the base is different.

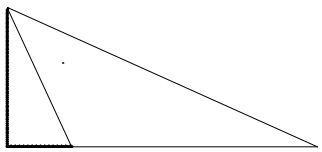


Figure 1

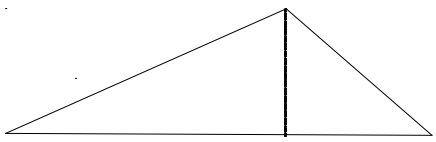
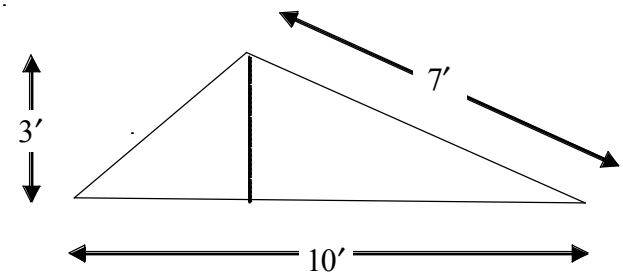


Figure 2

Will you get the same answer for the area when you use a different base and height? (yes / no)

3.31

In the example above, the figure does not need to be rotated. Change the way you look at it. For example, in the figure below, the height (3′) is drawn without changing the position of the figure on the paper.

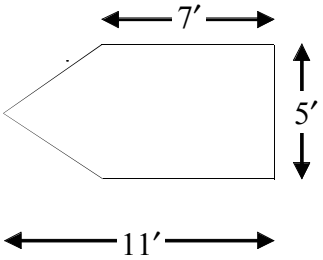


1. How long is the height of the figure?
2. How long is the base of the figure?
3. What is the area?

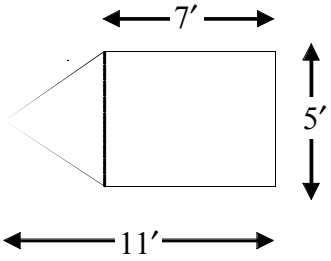
3.32

Earlier in this study, we broke some irregular lots down to rectangles to make it easy to find their areas. Use the same approach on more complicated irregular lots. For example, the figure below has been broken down into smaller parts.

Figure 1:



Step 1: Break into smaller parts



Step 2: Calculate area of each part.

5 x 7 =	35	sq. ft.
(11 - 7 = 4)		
4 x 5 ÷ 2 =	10	sq. ft.
	45	sq. ft.

Find the areas of the composite figures below:

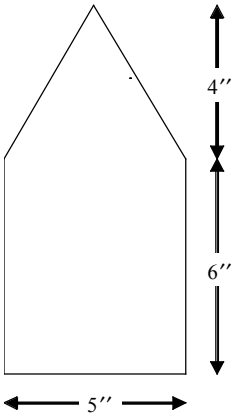


Figure 1

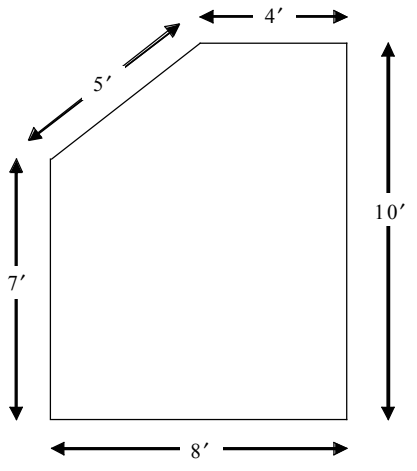


Figure 2

3.33

Now use this approach to find the areas of the following figures.

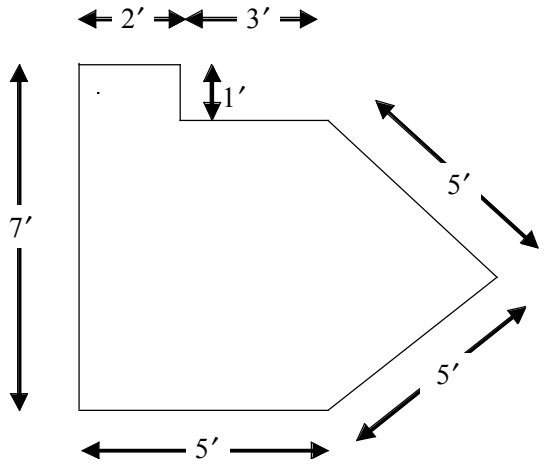
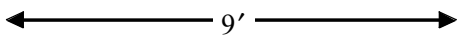


Figure 1



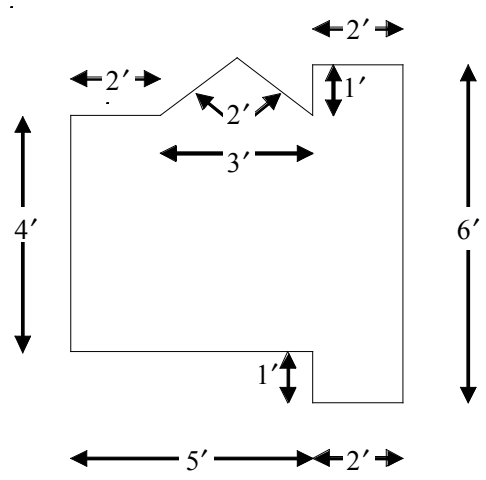


Figure 2

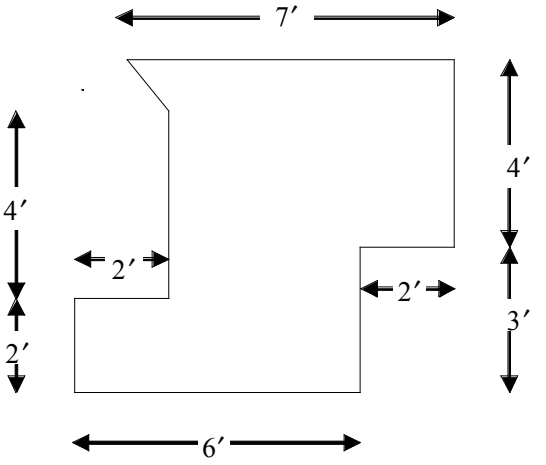


Figure 3

Finding the selling price per square foot

3.34

Now that you know how to calculate the area of regular and irregular lots and buildings, you can learn how to put this skill to work. To work effectively with comparables, you must be able to determine the price per square foot of lots, rooms, and buildings.

For example, you are appraising a lot 12,000 square feet in area. Your comparable is a lot 11,000 square feet in area. The easy way is to find the cost per square foot of the comparable and multiply by 12,000.

A statement of the amount of one thing per unit of something else is a rate. For example, speed is a rate: the number of miles (distance) per hour (one unit of time).

Is price a rate? _____ (yes/no)

3.35

Lots on a certain road are selling at $100 per front foot. Is this a rate? _____ (yes/no)

3.36

Price is always given as a rate, sometimes it does not seem so. For instance, $2.20 for 10 pounds of potatoes is a price. The unit is 10 pounds as it is given above. We change this to a unit of 1 pound by dividing the number by itself (10). One catch: we must also divide the other number by 10.

$\frac{220 \text{ cents}}{10}$ per $\frac{10 \text{ pounds}}{10}$ = 22 cents per 1 pound

This is called *reduction to lowest terms*.

Reduce the price below to lowest terms.

$3.50 per 5 pounds = _____
($7.00 per pound/$.70 per pound/$.07 per pound)

3.37

Reduce the rate below to lowest terms.

$50,000 per 20 acres = _____ per _____.

3.38

Of course, once you understand the necessity of reducing the fraction to the lowest terms, you can dispense with the rather awkward equation and merely divide the price by the unit. The reduction to lowest terms becomes a mental calculation:

$3.50 per 5 pounds becomes:

$\frac{\$3.50}{5}$ = $.70 per pound

Try these:

$6.40 was paid for 8 pounds of fruit. What was the price paid per pound?

$\frac{\$6.40}{8}$ = _____ per pound

$11.40 was paid for 6 pounds of meat. What was the price paid per pound?

$\frac{\$11.40}{6}$ = _____ per pound

3.39

To find the price per square foot of a property, reduce the price rate to lowest terms. A piece of land 5,000 square feet in area sold for $60,000.

The price per square foot can be found as below:

Price		Area
$\frac{\$60,000}{5,000}$	per	$\frac{5,000}{5,000}$

$12.00 per 1 sq. ft.

Find the construction cost per square foot of a house that contains 2,000 sq. ft. and cost $300,000 to build. _____ per 1 sq. ft.

3.40

Find the selling price per square foot of the following properties.

1. A lot 200 ft. by 60 ft. that sold for $60,000. _____
2. A house with a total floor area of 1,600 sq. ft. that sold for $180,000. _____

You have concluded the introductory lessons to the Three Approaches to Value and are ready to begin studying each of the approaches individually. The first approach you will study is the Cost Approach, followed by the Sales Comparison Approach, then the Income Approach.

Lesson 3: Answers

3.1

Figure 2 does not have square corners, or Figure 2 is not a rectangle; therefore, it cannot be a square.

3.2

3 square feet

3.3

4 (four)

3.4

15 sq. ft.

By multiplying 3 feet times 5 feet or 5 feet times 3 feet, you will reach the correct answer of 15 square feet.

3.5

32 sq. ft.

3.6

Figure 1: 4 square feet

Figure 2: 2 square feet

Figure 3: 10 square feet

3.7

Six feet

3.8

#1 and #5

Like units of measurement must be used to get area.

3.9

1 square foot

If you chose 144 square inches, your answer is correct. However, we will generally use feet as our basic unit of length. Therefore, the better choice was 1 square foot. Remember: To convert from inches to feet, divide by 12.

For example: 3″ becomes $^{3}/_{12}$′ or ¼′.

3.10

Figure 1: 1′6″ = 1½′ then 1½′ x 2″ = 3 square feet

Figure 2: 3″= ¼′ then ¼′ x 2′ = ½ square foot

Figure 3: 4′6″ = 4½′

2′8″ = 2 ⅔′

4½′ x 2⅔ = ⁹⁄₂ x ⁸⁄₃ = ⁷²⁄₆ = 12 square feet

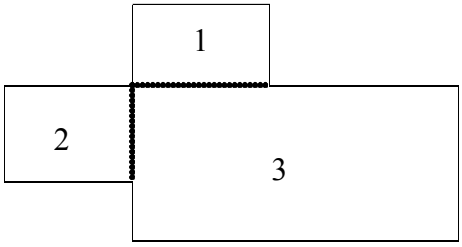
3.11

1. 60,000 sq. ft

2. 40,000 sq. ft

3. 100,000 sq. ft

3.12



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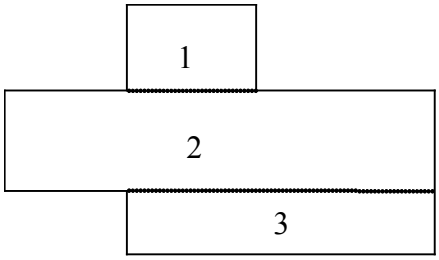

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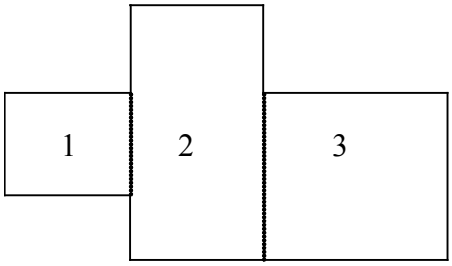
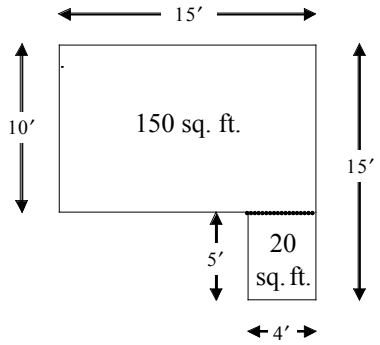


3.13

170 square feet



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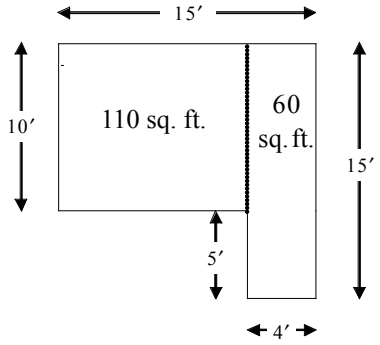


3.14

Lot 1: 40 square feet

Lot 2: 106 square feet

3.15

Line CB (or BC) and line AD (or DA)

3.16

Line RS (or SR)

3.17

Line HK

3.18

Lines AD and BC are both altitudes

3.19

No, it does not fit the conditions.

3.20

Line AB is the base.

Line DE is the altitude or height.

3.21

1. No, it is a parallelogram.

2. Yes

3. Yes, they cover the same amount of space.

3.22

1. Yes

2. Yes

3.23

16 square feet

3.24

28 square feet

3.25

Figure 1: 18 square feet

Figure 2: 10 square feet

Figure 3: 15 square inches

3.26

32 square feet

The height of the parallelogram is 3 ft. and the base is 4 ft. The area is 12 sq. ft.

The rectangle is 20 sq. ft. Total area of the figure is 32 sq. ft.

3.27

1. 12 square feet

2. Half, or 6 square feet

3.28

25 square feet

5′ x 10′ = 50 sq. ft ÷ 2 = 25 sq. ft.

3.29

Figure 1: 21 square inches

Figure 2: 28 square feet

Figure 3: 24 square inches

3.30

Yes, the area of the figure remains unchanged.

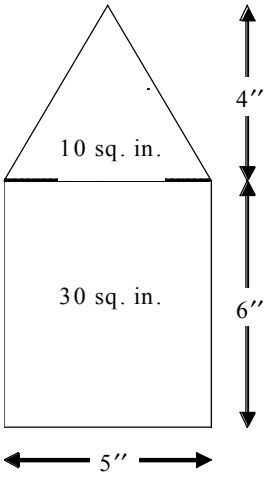
3.31

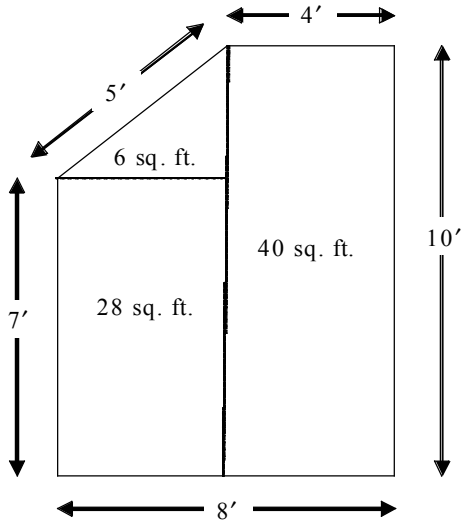
1. The height is 3 feet
2. The base is 10 feet
3. The area is 15 square feet

3.32

Figure 1: 40 square inches

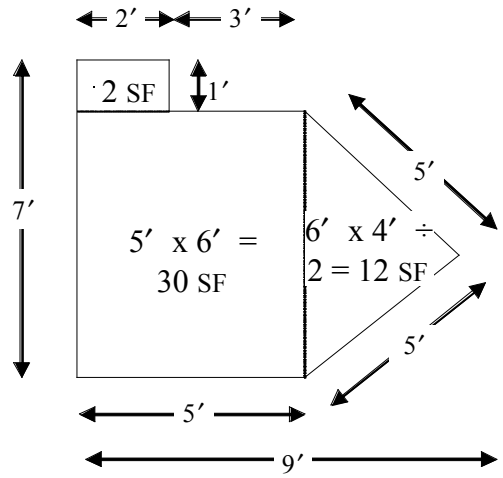
Figure 2: 74 square feet





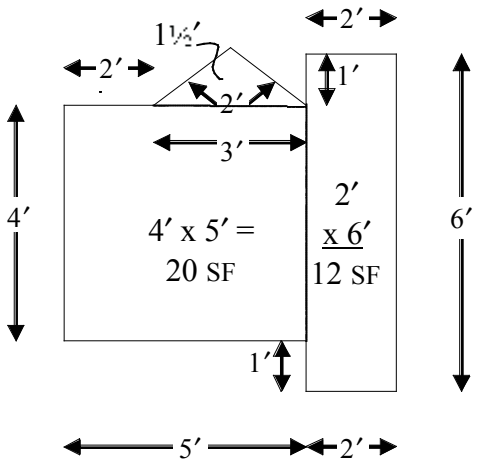
3.33

Figure 1: 44 square feet



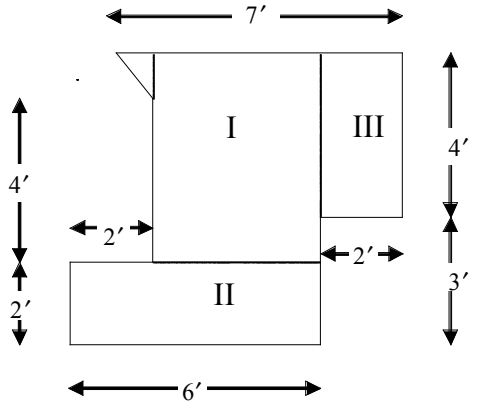
30	sq. ft.
12	sq. ft.
2	sq. ft.
44	sq. ft

Figure 2: 33½ square feet



Triangle	1½	sq. ft.
Rectangle I	20	sq. ft.
Rectangle II	12	sq. ft.
	33½	sq. ft

Figure 3: 40½ square feet



Triangle	½	sq. ft.
Rectangle I	20	sq. ft.
Rectangle II	12	sq. ft.
Rectangle III	8	sq. ft.
	40½	sq. ft

3.34

Yes, amount of some sort of currency per unit of an item.

3.35

Yes

3.36

$.70 per pound

3.37

$2,500 per acre

3.38

$.80 per pound

$1.90 per pound

3.39

$150.00 (per 1 sq. ft.)

3.40

1. $5.00 per square foot

2. $112.50 per square foot

The Cost Approach to Value

A Self-Study Course for Assessors and Appraisers

Revised by Property Tax Division
Oregon Department of Revenue
June 2007

The Cost Approach to Value
A Self-Study Course for Assessors & Appraisers

Foreword

For many properties, neither sales comparison nor income will be relevant approaches in estimating value. In such cases, the assessor must have an alternative approach to determining value. In this publication, *The Cost Approach to Value*, the learner will find material which will enable them to understand how the cost approach works and how to apply it.

On completion of this programmed instruction material, the learner will be able to:

- Determine which items should be regarded as cost when valuing a property
- Determine what kinds of features to look for when inspecting a property
- Evaluate the characteristics of a neighborhood
- Recognize and record differences in construction quality as a means of estimating cost
- Calculate the actual replacement cost of a building
- Complete residential appraisal cards

Read the material; then make a response by answering a question. Be sure to make a response. This is part of the learning process.

In some sections you will need to refer to data appearing in a portion of the book, *Cost Factors for Residential Buildings*, which you will find in the Supplemental Materials section at the end of the cost approach study materials. When you are required to do this, the *Cost Factors Supplement* will give you the information needed to make your correct response.

The correct answers to all responses will appear in an Answer Section at the end of each lesson.

Now let us learn the Cost Approach to Value.

Table of Contents

Lesson 1: Introduction to the Cost Approach

As we begin to study the cost approach to value, let us review the conditions that suggest the use of this approach to estimating value. Supposing your subject property is a private dwelling and there are many comparable sales in the locality, you would probably use the sales comparison approach to estimate the value. On the other hand, when a property is primarily purchased or designed to be rented to a lessee so that the owner may derive a return on their investment through rent, it is more logical to value the property based on its capability to produce rental income using the income approach to value.

However, assume that you, as an appraiser, have to estimate a value for a movie theater in a small town where the property owner operates the theater. You must decide how to go about establishing a value for this property. Since most small communities have very few movie theaters, the chances of finding market data on similar properties are slim. If the owner rented the property to a theater operator, and there were other comparable theaters rented on the same basis, you might consider the income approach—but in this case the owner is the operator, and rent is not a factor. Since you cannot use either the sales comparison or the income approach, you must estimate the value of this kind of property by the third method, the cost approach.

For assessment purposes, a cost approach is developed on all properties, and is then modified, when appropriate, by the income approach or the sales comparison approach. The cost approach is most reliable on properties that are new, show little depreciation, and make the highest and best use of the land.

On occasion, you will also find that residential property (single family residences) will have to be valued using the cost approach. This is especially true of older homes that have few comparable properties, although the reliability of your appraisal may go down for older properties.

The cost approach to value is based upon the principle of substitution. This principle states, "A buyer will not pay more for one property than for another that is available and equally desirable." This principle assumes no undue cost because of delay.

Now, let's find out in detail what the cost approach is and how to use it for valuing real property.

1.1

The cost approach to value involves three basic elements

1. An estimate of the *value of the land.*
2. An estimate of the *current new cost* for the structure(s).
3. The estimated amount of *depreciation.*

Using the letters **V** for estimated Value of the property, **L** for estimated value of Land, **C** for estimated Current New Cost of the structures and **D** for estimated Depreciation, write a formula describing the Cost Approach to Value.

V = _____ + (_____ – _____)

1.2

The first element of the cost approach, then, is estimating the _____ (improvement / land) value.

1.3

The second element is estimating the current new cost of the improvements on the land. (There may be one or more and all must be considered.) Specifically, you estimate the dollar outlay necessary to replace the building on a property at current construction costs. So now we know the second element of the cost approach. It is _____

_____

_____.

It is important that the appraiser have a clear understanding of the two different types of current cost new: replacement cost new and reproduction cost new.

The cost of constructing at current prices an exact duplicate or replica using the same materials, construction standards, design, layout, and quality of workmanship, embodying all the deficiencies, super-adequacies and obsolescence

of the subject building is called reproduction cost new. Unless there is a reason to preserve the style for some historical purpose, the cost would probably be excessive in relation to the real value of the property.

The cost of constructing at current prices a building having utility equivalent to the building being appraised, but built with modern materials and built according to current standards, design, and layout is called replacement cost new.

1.4

Would you be more likely to use reproduction cost new or replacement cost new to value a Cape Cod style home built 10 years ago and occupied as a private home? _____. (reproduction cost new / replacement cost new)

1.5

Would you use reproduction or replacement cost new to value a 100-year-old historical structure that is being used as a privately-owned museum? _____. (reproduction cost new/replacement cost new)

1.6

In the *Cost Factors Supplement* to this publication, the factors used are _____ (reproduction factors / replacement factors).

From previous examples, you can see that there is a difference between reproducing a building with exactly the same physical features and replacing a building for its functional use or utility. Only in cases where value may be given to historically significant construction features are you likely to use the reproduction cost technique. These judgments are based on your knowledge and experience. That is the appraiser's job.

1.7

But now, we need to consider the third element in the cost approach: depreciation. Suppose you were to value a 25-year-old property using the cost approach. You estimate the cost to replace the building, exactly as it was, at $130,000. Would the new structure be the same as the old one? _____ (yes / no)

You should be familiar with two additional terms in connection with depreciation. The first is functional obsolescence. It refers to the inability of a structure to adequately perform the function for which it is currently employed. This may be due to a poor floor plan, mechanical inadequacy or super-adequacy due to size, style, or age. Examples of this could be lack of closet space, ceilings too high or too low, heating system too large or small, and oversized structural supports (foundations, rafters, studs). Note all of these losses to the improvement are caused from within the structure. The second term is externalities. It refers to loss in value resulting from conditions outside the property. Externalities could be caused by any of the following: poor traffic patterns, over supply of housing, deterioration of a neighborhood by social changes, serious unemployment, etc.

1.8

By estimating the reduction in value of a structure because of normal wear and tear, you are actually estimating its physical _____. (location / depreciation)

1.9

Once you have estimated the values of the three elements in the cost approach, you can then estimate the property value by the following formula:

Property Value = estimated land value + (estimated replacement cost new – estimated depreciation)

Suppose you estimated the land for a property to be worth $80,000. Your estimate of the building replacement cost new is $148,000 with an $18,000 loss in utility. The value of the property is _____. ($210,000 / $246,000)

1.10

A subject property's land value is estimated at $68,000 with improvements worth $155,000 (replacement cost new). What is the value of the subject property if the improvements have depreciated $29,000 in value? _____. ($252,000 / $194,000)

1.11

To estimate the property value at $194,000, you used the _____ (cost / income / sales comparison) approach to value.

1.12

Once again; there are three basic elements that are essential in the cost approach. Keep them in mind as we proceed with the cost approach. What are they?

1. _____

2. _____

3. _____

Methods of Estimating Construction Cost

The cost approach to value involves three basic methods to estimate cost:

1. **The Comparative or Base Cost Method**

   This method groups similar buildings by design, type, and quality of construction. Therefore, their known cost develops an average unit cost. This, in turn, produces replacement cost factors by groups or class.

2. **Quantity Survey Method**

   This method is a complete cost itemization of all labor, materials, overhead and profit necessary for the construction of a building.

3. **Segregated Cost or Unit in Place Method**

   This is a modification of the Quantity Survey by combining unit costs for each portion of the building. Some examples are the cost per square foot of roof or walls, or the cost per linear foot of foundation wall, etc. This method can be useful to the appraiser for computing the cost of buildings which do not lend themselves to the comparative method, such as remodeled structures.

1.13

There are three methods of estimating cost within the cost approach. What are they?

1. _____

2. _____

3. _____

1.14

The comparative method, by developing an average unit cost from known construction cost, produces a replacement cost estimate. The other two methods of estimating cost are primarily used to produce a _____ (reproduction / replacement) cost of a building.

1.15

The one cost estimate method most likely to be equal to recent construction cost is the _____.
(segregated cost or unit in place / quantity survey / comparative or base cost)

1.16

However accurate the quantity survey is, it does not lend itself very well to the mass appraisal system. Thus, in Oregon the _____ (segregated cost or unit in place / quantity survey / comparative or base cost) Method has become the most widely used cost estimate method because of its speed, low cost and relatively high accuracy in mass appraising.

Costs of Construction

1.17

Since one of the steps we are concerned with is estimating the costs of constructing a building, let us discuss what those costs are.

Should all of the items listed below be included in the costs of building a structure? _____ (yes / no)

Materials

Labor

Financing costs prior to construction or during construction

Contractor's profit

Property taxes paid during construction

Entrepreneurial profit

1.18

There are two types of costs: Building costs are either direct costs of construction or indirect costs of construction.

Direct costs are those related directly to the building of the structure. These costs include, for example:

building materials	labor
rental of equipment	site cost

Building materials are involved directly in constructing the building, but the building permit is not.

There are costs that are not directly related to the actual construction of the building. Yet, these costs are necessary in order for construction to take place. They are called indirect costs.

Usually you will be using cost factor tables prepared for your convenience with both direct and indirect cost. But when using any published cost estimating system, it is important to check what costs, if any, are not included in the unit cost figures, giving particular attention to indirect cost.

Are all of the following costs of construction? _____ (yes / no)

Legal fees and expenses

Contractor's profit

Recording (deed) fees

Plumbing contractor fee

Title examination fees

Survey cost

Building permits

Entrepreneurial profit

Architect and engineering fees

Taxes paid during construction

Realtor fees

Lumber and hardware

Insurance paid during construction

Financing costs prior to and during construction

Now try the following Exercise.

Exercise

To assure yourself of your understanding to this point in the program, please answer these questions. Then you may check your answers in the Answer Section of this lesson.

1. Which of the following items are costs of a construction project?
   a. Labor
   b. Materials
   c. Architect and engineering fees
   d. Supervisory salaries
   e. Building permits
   f. Title and legal fees
   g. Insurance
   h. Electrical and water service
   i. Equipment rental
   j. Taxes during construction
   k. Construction loan fees
   l. Interest during construction
   m. Utilities
   n. Overhead
   o. Profit: contractor and entrepreneurial
   p. Advertising expense

2. Once again, what is the formula for estimating value by the cost approach?

   Value = _____ + (_____ – _____).

3. When will the assessor have occasion to use the cost approach?

4. What cost estimate method is most widely used in Oregon for mass appraisal work?

5. The comparative cost estimate method gives you an average unit cost of a style or class of construction. What kind of cost new are you obtaining from this method?

Lesson 1: Answers

1.1

V = L + (C-D)

The estimated value of the property is equal to the estimated land value plus the estimated current new cost minus the estimated depreciation.

1.2

Land

The land value can be determined by sales comparison and is the first element in the cost approach.

1.3

Estimating the current new cost of the improvements on the land (or your own words)

1.4

Replacement cost new

1.5

Reproduction cost new

The historical significance and value of the structure could be worth the reproduction cost new.

1.6

Replacement factors

These replacement factors can produce a cost estimate of a building which has equivalent utility to the building being appraised, but built with modern materials and built according to current standards, design, and layout.

1.7

No

The new structure would have no wear and tear and the replaced structure would have had twenty-five years worth of wear and tear. Normal wear and tear is called physical depreciation.

1.8

Depreciation

The reduction in value of a structure due to normal wear and tear over time is called physical depreciation.

1.9

$210,000

Property Value = Land Value + (Replacement Cost New – Depreciation)

$210,000 = $80,000 + ($148,000 - $18,000)

1.10

$194,000

Property Value = Land Value + (Replacement Cost New – Depreciation)

$194,000 = $68,000 + ($155,000 - $29,000)

1.11

Cost

1.12

1. The estimated value of the land
2. The estimated cost new for the improvements (replacement or reproduction)
3. The estimated depreciation (from all sources)

1.13

1. The Comparative or Base Cost Method
2. The Quantity Survey Method
3. The Segregated Cost or Unit in Place Method

1.14

Reproduction

1.15

Quantity survey

This is due to its complete cost itemization of all labor, materials, overhead and profit necessary to construct a building.

1.16

Base Cost or Comparative

1.17

Yes

These costs normally encountered in construction.

1.18

Yes

All are costs of construction.

Exercise - Answers

1. All of the items, a through p, are costs of construction.

   (a) Labor, (b) Materials, (d) Supervisory salaries, (h) Electrical and water service, (i) Equipment rental, (m) Utilities, are all directly used in the construction process. The other items are indirectly used; i.e., they are necessary costs, but are not part of or directly contribute to the construction of the structure.

2. Value = Land + (Replacement Cost – Depreciation)

3. Normally, the assessor prepares cost estimates on all properties, modifies the result, when appropriate, by the income approach or the sales comparison approach.

4. The comparative or Base Cost Method is the method most widely used by assessors' offices throughout Oregon.

5. You obtain a replacement cost estimate from the comparative method because it deals with replacing utility and functional use rather than reproducing an exact duplicate structure.

Lesson 2: Inspecting Property and Gathering Physical Data

Neighborhood Analysis and Gathering Physical Data

A parcel of real property is an integral part of its neighborhood. It is not, and cannot be treated separately from its environment or neighborhood. This is why a simple understanding of the neighborhood can help an appraiser make better estimates of value, using the cost approach to value.

A neighborhood is a homogeneous grouping of individuals, buildings, or business enterprises within, or as part of, a larger community. The homogeneous grouping of individuals, buildings or business enterprises is all influenced by relevant physical, social, economic and governmental factors.

2.1

Therefore, a neighborhood will have a community of interest and similarity of economic levels or cultural backgrounds. A neighborhood exists because there is a strong homogeneous _____ (detachment / grouping) of individuals, buildings, or business enterprises within, or as part of, a larger community.

2.2

A residential neighborhood takes on the characteristics of the individuals who live in them. Similar interests, social and economic status, related traditions and mutual desires group people into a residential _____. (neighborhood / fragment)

2.3

Commercial and industrial neighborhoods are areas where the land use is devoted predominantly to commercial or industrial pursuits. They are called neighborhoods because they have a _____ _____ (homogeneous / non-homogeneous) grouping of buildings or business enterprises.

2.4

The neighborhood boundaries may consist of well-defined natural or man-made barriers or they may be well-defined by a distinct change in land use or in the character of the inhabitants. You could say a neighborhood is a _____ (well defined / unrelated) area.

2.5

Could all of the following be examples of neighborhood boundaries? _____ (yes / no)

Railroad tracks	Commercial or industrial developments
Streams	
Hills	Deed restrictions
Ravines	Type or age of buildings
Zoning ordinances	Lines created by subdivision developments

2.6

Could a farming neighborhood boundary be formed by size of operation, type of ownership, soil, crops grown, or its land use? ____ (yes / no)

2.7

Neighborhoods are found in varying sizes from small segments of a city to entire communities. However, all neighborhoods originate because of factors such as the following:

1. A need for safety afforded by numbers
2. The desire for companionship
3. The need for greater cultural advantages
4. The incentive to engage in commercial pursuits

Can neighborhoods be formed just for the desire to enjoy greater cultural advantages?

_____ (yes / no)

2.8

There are four general classifications of neighborhoods according to use that will be easy for you to distinguish. These are:

1. Residential
2. Recreational/Seasonal
3. Farming
4. Commercial/Industrial

If a property were located among other homes surrounding a lake, and these homes were used primarily in the summer and on weekends in the fall, you would classify the neighborhood as _____. (farming / residential / recreational-seasonal)

2.9

A residential neighborhood is one containing basically single family residences. How would you classify a neighborhood consisting of a mom and pop grocery store and single family dwellings? _____. (commercial / residential / recreational)

2.10

On rare occasions, you will find a neighborhood that does not fall neatly into one of the four basic use classifications. In a situation such as this, you will have to observe the direction that the neighborhood is moving to make your judgments.

Therefore, the changing use or transitional neighborhood becomes the fifth type of neighborhood and probably the most difficult to determine. This transitional neighborhood is a neighborhood that is changing from one form of neighborhood to another, e.g. from residential use to commercial use.

A farming neighborhood then, in the process of becoming a residential neighborhood, would be recognized as a _____ (transitional / homogeneous) type neighborhood.

2.11

The changing use neighborhood is one of the most difficult to appraise because the highest and best use of each property must be carefully determined. Highest and best use is that use which fully develops the site's potential.

Because of shifting economic and social patterns, the present highest and best use of a site might change. When this occurs, you are seeing a transitional neighborhood develop. A transitional neighborhood is a neighborhood that is _____ (changing / static) in nature.

2.12

We now know what a neighborhood is, what its boundaries are, why a neighborhood forms and the many different kinds of neighborhoods. But how do neighborhoods affect the value of an improvement?

Appraisers are always looking for factors in a neighborhood that affect the value of improvements. Whether the value of an improvement is affected positively or negatively depends upon the type of neighborhood it is. For example, being next to railroad tracks may increase value for an industrial neighborhood but diminish desirability in a residential neighborhood.

Here are three examples of what can depreciate value for most neighborhoods.

1. People thinking the neighborhood is losing desirability.
2. Change in uses.
3. Lack of zoning, architectural styles, or poor maintenance.

For example, you observe a residential neighborhood with many houses that need painting, yard work, and routine maintenance. Those observations would show you a diminished desirability for the neighborhood. This diminished desirability, in turn, _____ (increases / depreciates) the value of improvements within the neighborhood.

2.13

Loss of value to an improvement in a neighborhood because the neighborhood was losing desirability, changing use, or lacking zoning, are all examples of a form of depreciation called _____. (externalities / physical / functional)

2.14

Following are examples of factors that may improve value to a particular type neighborhood:

1. Schools, churches, recreation facilities, and other amenities.
2. A homogeneous population with a sense of civic responsibilities.

3. Prestige and visual appeal.
4. Satisfactory transportation facilities and good approaches.
5. Natural topographical and geographical advantages.
6. Conformity in land use and sensible zoning.
7. Good planning and adequate utilities.

These factors would be critical areas of concern for a _____ (residential / farming / industrial) type neighborhood.

2.15

Factors that may affect the value of the improvements in a commercial district are:

1. The quantity and quality of purchasing power in the area.
2. The 100 percent core area of the commercial district.
3. The visible direction of growth.
4. Availability of land for new stores and customer parking.
5. The location and character of competition.
6. The economic status of the trading area.

In the appraiser's analysis of a commercial neighborhood, quantity and quality of buying power and the location of the improvements are keys to value within the neighborhood. We could say that quantity and _____ (punctuality / quality) are important concerns of the appraiser.

2.16

To estimate the effect on value of the subject property's neighborhood, you mentally will have to rate the neighborhood's quality. In residential neighborhoods you rate quality with respect to the following categories of improvements:

- **Class 1**, *Basic Shelter.* These houses do not meet minimum building code standards. Usually older and undersized; a basic shelter home of minimal quality.
- **Class 2**, *Low cost quality housing*. Falls below minimum building code standards, emphasis is on shelter and not style. Very simple, plain features with inexpensive quality of materials and workmanship.
- **Class 3**, *Economy quality homes*. Built to meet current minimum building code standards. Functional utility rather than style with little or no external ornamentation for this class.
- **Class 4**, *Fair*. Usually stock plans and meet current building codes. Workmanship and material are basic and fair; with some curb appeal on front; sides & rear plain.
- **Class 5**, *Average quality*. This is a larger home which reflects popular styling, design and functional utility. Home will also have more interior & exterior ornamentation. Average is based on a state or national basis and may differ from the norm for your area.
- **Class 6**, *Good quality*. There is attention to appearance and detail; ornamentation and craftsmanship as well as having architectural style and design.
- **Class 7**, *High quality.* Custom designed by professional home planners; and built by specialty contractors and may have architectural supervision. Good architectural design features; with high quality materials and craftsmanship found in both interior and exterior.
- **Class 8**, *Custom estate homes*. Quality rather than cost is primary consideration. Superior detail throughout, having the highest quality of design, craftsmanship and materials. A display of grandeur.

Which of the categories would best serve as a base or yardstick for evaluating other residential neighborhoods? _____
(economy / average / high)

2.17

Neighborhood ratings are based on two primary factors: function and quality. Homes in an average neighborhood reflect popular combinations of styling, design, functional utility and convenience of floor plan.

Structures in a high or better neighborhood are usually designed by professional home planners and built by specializing contractors. Special effort is made to bring out good styling and design features.

Think of the high or better neighborhood as one that has the largest and most impressive subdivision of homes, the one that offers the ultimate in comfort. You would also expect schools to be closer, and parks and roads better kept in a high or better neighborhood than in a low cost one. _____ (true / false)

Note: These higher quality neighborhoods are generally not common to many geographical areas because the economic base is not able to support that level of value.

2.18

A neighborhood offering obviously more function and quality than the average quality or good quality would be rated _____. (class 5 / class 6 / class 7)

2.19

Neighborhoods of economical type homes are fully functional. These homes are currently built to meet the specifications of government financing programs. The homes _____ (will / will not) meet current building code requirements?

2.20

In neighborhoods rated below class 3, economical type homes, you will most likely find structures that are barely functional. Plumbing often is not adequate; there is minimal central heat, the windows are minimal. Would you expect neighborhoods like this to be near shopping facilities? _____. (probably not / probably)

2.21

In addition to classifying and rating the neighborhood, you should note whether the neighborhood is a subdivision and the average building age. In a neighborhood that is not a subdivision, the ages of the buildings might vary. However, structures in subdivisions most likely will be _____ in age. (similar / different)

After you have observed the important factors of a neighborhood, you will need to relate them to the individual property to be appraised. When estimating the value of improved real estate, the appraiser must analyze two distinct entities. One of these is land; the other is the improvements on the land. Now look at the former by studying a Land Appraisal card. A sample is shown on the following page.

PROPERTY CLASS _____ **LAND APPRAISAL** ACCOUNT NO. _____

PHOTO NO. _____ CODE NO. _____

RECORD OF APPRAISAL ORS 308.234		
SUBTOTAL "A"	$	
INCREMENTS TO LAND "B"	$	
GROSS LAND VALUE "A" + "B"	$	
SITE ADJUSTMENTS _____%	$	
TOTAL APPRAISED VALUE	$	
APPR. BY _____ DATE _____		

MARKET DATA
PURCHASE PRICE $_____
DATE
DEED _____ TYPE _____
CONTRACT
TRADE
RENT
LISTING

REMARKS: _____

COMPUTATION

ZONING		DIMENSIONS OR ACRES	LAND CLASS	BASIC UNIT VALUE	ADJUSTMENT FACTORS			ADJUSTED UNIT VALUE	TOTAL VALUE
RESIDENTIAL									
MULTI-FAMILY									
COMMERCIAL									
NEIGHBORHOOD COM'L									
LT. INDUSTRIAL									
HVY. INDUSTRIAL									
AGRICULTURAL									
AREA IMPROVEMENTS									
SIDEWALKS									
CURBS									
STREET									
WATER									
SEWERS									
ELECTRICITY									
SITE ADJUSTMENTS	**%**								
ROAD TYPE D G P									
MI. TO ALL WTHR RD _____									
MI. TO MKT CENTER _____									
TOPOGRAPHY									
VIEW									
STANDARD DEPTH	**Feet**		<— TOTAL ACRES		SUBTOTAL "A" (TRANSFER TO VALUE SUMMARY) ♦				
STANDARD DEPTH									
EFFECTIVE DEPTH									

_____ COMPUTER / DATE

_____ CHECKED / DATE

2.22

All portions of the Land Appraisal card are easy to fill out. The judgments you have to make concern the site adjustments, standard depth (size), and the important basic unit value. However, you must also establish the pertinent market data information, zoning, area improvements, etc., on the Land Appraisal card.

As you can see, you will have to ask questions in order to get information, and some information you can get by _____. (observation / omission)

Now try the following Exercise.

Exercise 1

You will be given a description of a property and a section of a Land Appraisal card to fill out. Read the description below and mark the form accordingly.

> A three bedroom house is located in a residential neighborhood on a paved and curbed street. The lot has city sewer and water. The site slopes to the rear causing a 10 percent loss in value. However, the site's loss in value due to topography is offset by an enhanced view.

MARKET DATA
PURCHASE PRICE $_____
DATE
DEED _____ TYPE _____
CONTRACT
TRADE
RENT
LISTING

ZONING	
RESIDENTIAL	
MULTI-FAMILY	
COMMERCIAL	
NEIGHBORHOOD COM'L	
LT. INDUSTRIAL	
HVY. INDUSTRIAL	
AGRICULTURAL	

AREA IMPROVEMENTS	
SIDEWALKS	
CURBS	
STREET	
WATER	
SEWERS	
ELECTRICITY	

SITE ADJUSTMENTS	%
ROAD TYPE D G P	
MI. TO ALL WTHR RD _____	
MI. TO MKT CENTER _____	
TOPOGRAPHY	
VIEW	

STANDARD DEPTH	Feet
STANDARD DEPTH	
EFFECTIVE DEPTH	

2.23

We can review the steps we have just taken.

When you visit a property for appraisal purposes, the first thing you observe is the neighborhood. You then will recognize the neighborhood's boundaries, classify the use, notice all factors that could, and do affect value, and determine the quality of the neighborhood.

You also will observe the property class of the neighborhood and the average building age. Then you will note the zoning, highest and best use, area improvements, site adjustments, etc., on the _____. (improvement card / land card)

2.24

With a subject property you must be able to complete the following tasks: measure the structure, sketch its dimensions, and calculate the area in square feet. Measurements should be taken from the _____ (interior / exterior).

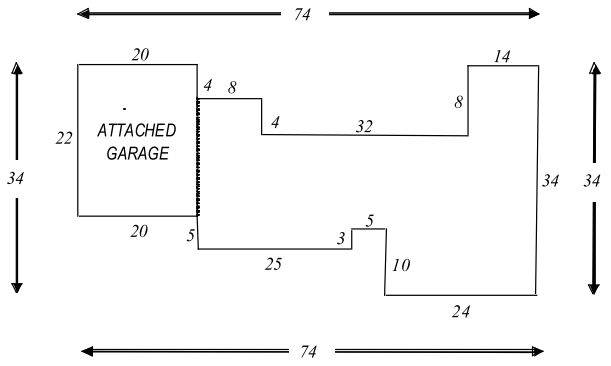
2.25

After you measure the exterior of the property to be appraised, you must separate the area of the garage from the rest of the house. This is done to isolate the _____ (cost / rent) of the living area from the garage area.

2.26

As you recall from the previous lesson, there are two ways to look at the cost of a property for appraisal purposes. One of these is reproduction costs. The other is called _____ (replacement / depreciated) costs.

When you are on the property you must be certain all measurements are correct, otherwise erroneous areas and inaccurate values will result. Therefore, all dimensions should be balanced while you are at the property. Balancing is "squaring up" the dimensions of the structure to make the back and front equal to each other and the sides equal to each other also. Remember to double check all the dimensions at the site. Normal practice is to round each measurement to the nearest foot. See the balanced building diagram below.



2.27

A structure that has its front and back dimensions equal as well as the sides probably has no errors in its measurements. This double checking of measurements in the field is called _____. (balancing & squaring up /estimating)

After you measure the structure, you will have to sketch it and note the dimensions of your sketch. Then you will have to calculate the area in square feet. This is easy for rectangular-shaped structures, but can be tricky when working with irregular shapes.

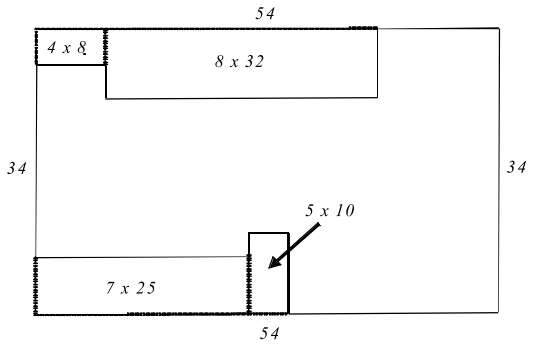
2.28

When determining square footage of a dwelling, you _____ separate / combine) the garage and house area because of the high cost difference between their areas.

Remember, there are two different methods in determining area of a structure:

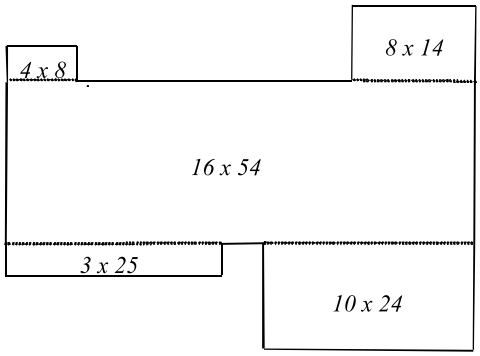
1. The first method is by squaring the sides. This is accomplished by multiplying width by length and deducting the exterior portions of the squared diagram.

   Study the figure below.



34 x 54	=	1,836 sq ft
4 x 8	=	32
8 x 32	=	256
5 x 10	=	50
7 x 25	=	175
		513
1,836 – 513 =		1,323 sq ft

2. A second approach is by area calculation. In this method you break down the figure into component parts and add them together. See the example below.

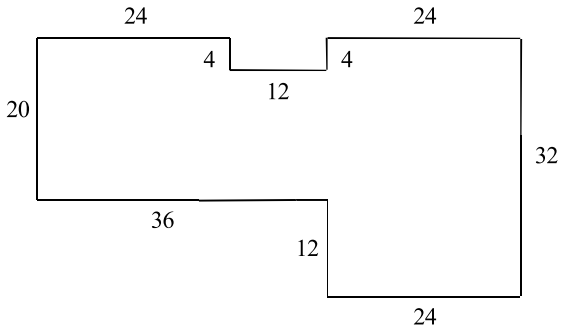


4 x 8	=	32
8 x 14	=	112
10 x 24	=	240
3 x 25	=	75
16 x 54	=	864
		1,323 sq ft

Exercise 2

Please check your ability to calculate area by completing the following problem.

You are appraising a house that faces north on Oregon Avenue. It has no garage or outbuildings. The house has the following shape:



Given the information above, what is the area of the building? _____ square feet. Display all pertinent information given and show your calculations. Check your answer in the Answer Section at the end of Lesson 2.

2.29

After you have inspected the exterior and calculated the area of the structure, you are ready to inspect the interior. Something to keep in mind: the order of inspection may be reversed at any time for public relations reasons (muddy boots on the carpets, etc.). However, the important factor to consider is not the order of inspection so much as whether the subject property conforms to the neighborhood. In other words, does it belong where it is? How does a spacious ranch style house with a well-kept and tastefully landscaped yard fit into a class 5, average neighborhood? _____ (conforming / nonconforming)

2.30

When determining conformity of a subject property to its neighborhood, you will be looking for similarities of size, features, and quality, both inside and out. In other words, is the property obviously superior or inferior to the other properties in the neighborhood?

Inferiority and superiority cannot be determined by outside appearances alone. It will be determined as much by the _____ (location / interior) as the exterior.

2.31

You will have to consider whether the features of a subject property are over-improved or under-improved compared to neighborhood standards. A five bedroom house with four and one-half bathrooms in an average neighborhood is what we would call an _____ (over-improvement / under-improvement).

2.32

Under-improvement refers to an absence of standard features for a particular neighborhood. A house with a carport in a neighborhood where 90 percent of the homes have garages is an _____. (over-improvement / under-improvement)

2.33

You will use the concept of over-improvements and under-improvements in your inspections to determine whether the subject property is inferior or superior to immediately surrounding properties. Usually under-improvements are _____ (inferior / superior) to the immediate properties, and over-improvements are _____. (inferior / superior)

2.34

In estimating the degree of over-improvement or under-improvement with real property you will measure the return on the value of a portion or portions applied to the total real property. This is an example of the basic principle of _____. (contribution / anticipation / substitution)

Exercise 3

After reading the items below, mark each as either an under-improvement or an over-improvement. (Use U and O.)

1. _____ A fireplace in every bedroom of an electrically heated subject property in a neighborhood where homes have electric heat.
2. _____ Crawl space under subject house in a neighborhood where homes have full or partial basements.
3. _____ A dishwasher, garbage disposal, built-in microwave oven and a trash compactor in a low cost neighborhood.
4. _____ A large backyard swimming pool in a low cost neighborhood.

Lesson 2: Answers

2.1

Grouping

2.2

Neighborhood

2.3

Homogeneous

Homogeneous is defined by Webster's New World Dictionary as, "...the same in structure, quality, etc.; similar or identical."

2.4

Well-defined

2.5

Yes

The examples could separate or divide an area by homogeneous groupings.

2.6

Yes

They are a homogeneous grouping of business enterprises.

2.7

Yes

Many residential neighborhoods are formed just to be near a particular school, church, or recreational facility.

2.8

Recreational/Seasonal

A recreational or seasonal neighborhood consists of homes that are used during vacations or only for recreation.

2.9

Residential

Even with the grocery store in the neighborhood, the primary use of the neighborhood is residential.

2.10

Changing use or transitional

The changing use or transitional type neighborhoods are determined by the varying and unstable mix of the improvements.

2.11

Changing

Remember, you should always include comments about a property's highest and best use in the remarks section of the Land Appraisal card.

2.12

Depreciates or any word or words meaning loss in value.

2.13

Externalities

When loss of value occurs to an improvement from factors outside of the property, it is called Externalities.

2.14

Residential

2.15

Quality

Quality of buying power to quality of construction will become more important to you later on. In residential neighborhoods the quality of construction is easier to classify because of the base cost specifications found in your *Cost Factors for Residential Buildings* book.

2.16

Class 5, Average

Most people have a better understanding of the average neighborhood than of a low cost or high and better class. For the purpose of simplification, this publication will only address itself to three basic classes: class 3, low cost; class 5, average; and class 7, high and better. See your *Cost Factors for Residential Buildings* book for addition-

al information on the base specifications of each class or quality of residential improvements.

2.17

True

Comfort and convenience prevail where there is a concentration of better quality homes.

2.18

Class 7, high quality (custom built)

2.19

Will

These homes just meet current minimum building code requirements.

2.20

Probably not

You may find a mom and pop grocery store where such items as milk can be bought daily, but the inhabitants of this type neighborhood must usually travel to shop.

2.21

Similar

2.22

Observation or any other word or words with similar meaning

Exercise 1

MARKET DATA	
PURCHASE PRICE $_____	
DATE	
DEED _____ TYPE _____	
CONTRACT	
TRADE	
RENT	
LISTING	
ZONING	
RESIDENTIAL	✓
MULTI-FAMILY	
COMMERCIAL	
NEIGHBORHOOD COM'L	
LT. INDUSTRIAL	
HVY. INDUSTRIAL	
AGRICULTURAL	
AREA IMPROVEMENTS	
SIDEWALKS	
CURBS	✓
STREET	✓
WATER	✓
SEWERS	✓
ELECTRICITY	
SITE ADJUSTMENTS	**%**
ROAD TYPE D G (P)	
MI. TO ALL WTHR RD _____	
MI. TO MKT CENTER _____	
TOPOGRAPHY *Slopes*	*-10%*
VIEW	*+10%*
Total adjustments	*0%*
STANDARD DEPTH	**Feet**
STANDARD DEPTH	
EFFECTIVE DEPTH	

2.23

Land Card

2.24

Exterior

2.25

Cost

2.26

Replacement

Remember, in this publication, you will be working with replacement cost only.

2.27

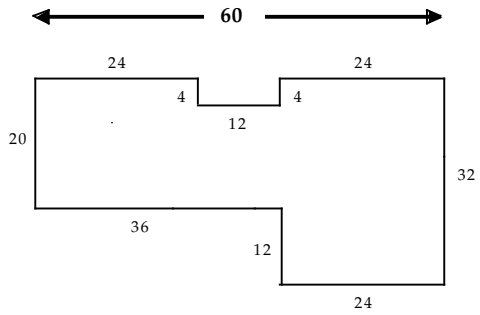
Balancing and squaring up

2.28

Separate

Exercise 2

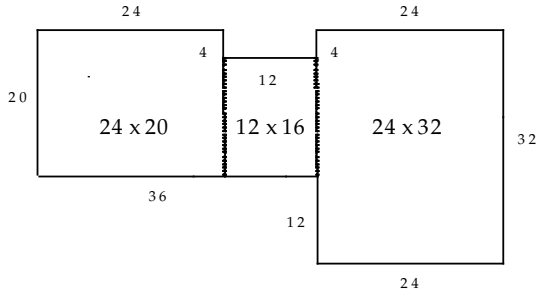
1. The squaring the sides method.



Area of House

60	x	32 =	1,920
12	x	4 =	48
36	x	12 =	432
			-480
			1,440

2. The area calculation method.



Area of House

24	x	20 =	480
12	x	16 =	192
24	x	32 =	768
			1,440 sq ft

2.29

Conforming

2.30

Interior

The quality of the interior finish may be higher or lower than you would have suspected from the outside.

2.31

Over-improvement

Five bedrooms and four and one-half baths are not typical of the floor plans of houses in a neighborhood of average quality homes.

2.32

Under-improvement

2.33

Inferior…superior

2.34

Contribution

The principle of contribution is the principle of increasing and decreasing returns applied to a portion or portions of real property. It states that the value of any individual agent in production depends on how much it contributes to value by its presence, or detracts by its absence.

Exercise 3

1. O
2. U
3. O
4. O

Lesson 3: Classes of Construction

Styles of construction and the materials used in construction vary greatly in both quality and cost. To reduce the workload of appraisers, a comparative method using the square foot as the unit of comparison was developed. The cost tables found in this publication originate from the Oregon Department of Revenue's book *Cost Factors for Residential Buildings*. A sample of the residential cost tables are found in the Supplemental Materials Section of this publication for only three classes of the eight different classes of residences. The three represented are: class 3, *economical quality;* class 5, *average quality*; and class 7, *high quality*.

Take time now to read the introductory material at the beginning of the *Cost Factors Supplement* and look through the information in the three classes of houses represented. Pay particular attention to the information regarding base factors and adjustment factors. Certain components are included in the base cost factor tables and other components are additional costs that modify the base factors according to the features. Examples of the adjustment factors that must be considered as additional costs in a single family residence would be: heating and cooling, plumbing fixtures, built-in kitchen appliances, etc. Additional costs for these and other features are listed either in the Adjustment Factors section for each classification or in the Component Costs sections of the *Cost Factors for Residential Buildings* book.

In this lesson we will discuss some general and some specific physical factors about residences. The information will allow you to determine the class of a residence easily and quickly. It is advantageous to remember that while homes that fall well within the borders of the various broad classes are easy to identify, a home that seems on the borderline may be difficult to classify. Again, your good judgment will be called upon.

3.1

First, we will discuss the three classes of residential construction found in the *Cost Factors Supplement* to this course. For educational purposes, the lowest class of construction in this course is class 3, economical housing. An average quality home is a class 5. You would expect a custom home with high quality construction, styling features and ornamentation to be classed a _____ (class 3 / class 5 / class 7) residence.

3.2

The three construction classes addressed in this book are designated by Class Features, Class Illustrations, and Base Specifications. A class 7 residence is also called a custom designed residence because it is built of a higher quality than a class 3 or 5. The class 3 residence is called _____ (a custom quality home / an average quality home / an economical quality home) because of its Class Features, Base Specifications, and Class Illustrations.

3.3

Now, let's look at some of the factors that qualify a house to be considered a particular class. Since the standard class 5 average quality house built today has 3 bedrooms and at least 2 ½ baths, you would then expect an economical housing class home to have _____ (one or two / at least three) bathroom(s).

3.4

In a housing development comprised of volume homes, the builder keeps the cost low by standardizing the architecture and fixtures, such as those in the kitchens and bathrooms. The economy of volume buying by the builder is passed on to the home buyer so the average family can afford such a home. An appraiser would categorize these homes somewhere between class 3 to 5. _____ (true / false)

3.5

Class 3 economical homes usually are designed from a simple rectangle with very plain features. The emphasis in building class 3 is _____ (looks / economy).

3.6

The characteristics or base specifications of a class 5 average quality house are included in the *Cost Factors Supplement* included with this

course. Please turn to the *Cost Factors Supplement* and read the information about typical features of class 5 construction.

A brief look at the exterior and the interior of a house will let you know (except in borderline cases) whether the house is a class 3, 5 or 7.

Try one. Of the two houses below, which is a class 5? _____ (Example 1 or 2)

Example 1

Example 2

3.7

A class 5 average quality house most likely would have interior components consisting of the following: cabinets proportionate to house size; average quality plywood with hardwood veneer; wardrobe, linen, and utility closets with shelving; average quality hardware. This information was found in the _____ (Class Features / Class Illustrations / Base Specifications) for class 5 residences.

3.8

The main goal of Base Specifications is to help you, the appraiser, determine the proper _____ (classification / size) of a house.

3.9

If you were to briefly describe a class 7 type of house, you might say that a class 7 home is custom built by specialty contractors and exhibits very high quality craftsmanship in design features, functionality and materials. Read the following brief descriptions of some base specifications:

1. Economy grade plastic or laminate countertop and backsplash.
2. Economy grade painted single siding.
3. Light weight 3-tab composition shingle roof cover.
4. Cabinets of economy paint grade materials or simulated veneer finish.

From these brief descriptions of base specifications, what class of residence is it? _____ (high quality / average quality / economical quality).

To properly class a house you must base your judgments on three separate criteria: Class Features, Class Illustrations, and Base Specifications.

1. The Class Features are used as a general guide to obtain the proper classification through generalizations of exterior appearances.
2. The Class Illustrations or Photographs provides a supplemental aid in identifying the appropriate replacement class through selecting a visual equivalent of the subject property.
3. The Base Specifications provide the final aid in selecting the proper class by using a general breakdown of the interior and exterior component parts of a structure.

You must be familiar with the criteria mentioned above in order to properly class a home.

3.10

The class 5 average quality houses below probably were built for speculation. They reflect some of the most popular combinations of styling, design, and functional utility. These homes are acceptable to a broad portion of the market.

To classify the property above with the greatest accuracy, you must have all criteria available. What is missing in the example above that would be important in determining the proper classification? _____ (Class Features / Class Illustrations / Base Specifications)

3.11

Now try this one. Classify the three following houses.

(1) Class _____

(2) Class _____

(3) Class _____

3.12

Below are three houses. Please classify them according to their proper class.

(1) Class _____

(2) Class _____

(3) Class _____

3.13

Below is a list with brief Base Specifications for the interior or exterior of homes. Please indicate in the left margin the class of house in which you would expect to find these Base Specifications. (Classify by using the proper class number.)

_____ 1. Average quality painted siding with sheathing--stud frame construction and insulation.

_____ 2. Crawl space excavation--economy grade painted single siding.

_____ 3. Quantity of cabinetry proportionate to overall house size, cabinets of better quality painted or stained solid hardwood stock, or hardboard with painted finish; both with decorative trim.

_____ 4. Higher quality porches conforming to the style and design of the house.

_____ 5. Economy open front entry porch with concrete or wood steps--minimal extension of dwelling roof or separate roof covers, slightly wider than entry door.

_____ 6. Architecturally designed construction--high quality siding and trim.

_____ 7. Medium weight shakes--cabinets of average quality plywood with hardwood veneer.

3.14 Exercise

The following are three photographs of houses with brief descriptions of their interiors. Please assign each the proper number classification. Then check your answers in the Answer Section at the end of this lesson.

_____ 1. This house was built of higher quality frame construction; ornate hardware and trim; was designed by a professional home planner and built by specializing contractors.

_____ 2. This house has minimum convenience outlets and wall switches; economy grade carpet and padding; light weight 3-tab composition shingle cover.

_____ 3. Average quality doors, hardware and trim; cabinets of average quality plywood with hardwood veneer and average quality hardware.

Lesson 3: Answers

3.1

Class 7 high quality

3.2

An economical quality home

The number and descriptive term categorized the construction of a residence.

3.3

One or two baths

Number of baths varies, especially in newer construction. Older conventional housing typically had one bath on class 3 houses.

3.4

True

3.5

Economy

The economical quality home concept is to provide housing for the economy market and houses are generally built to meet government financing program specifications. Emphasis is on functional utility. These homes just meet the current minimum building code.

3.6

Example 2 is a class 5 house

Example 1 is an adequate home, but with few frills. Example 2 is also adequate, but obviously more expensive because of its quality of materials and workmanship features. If possible, to confirm your impression you would need to see the interior of the structure as well.

3.7

Base Specifications

The Base Specifications found in the supplement will give you an organization by which to compare the construction features with the individual components of a house.

3.8

Classification

A properly classified house would, through use of the base cost factors, give you a realistic replacement cost new of a dwelling.

3.9

Economical quality

Whether a house has a high class or low class appearance, you need a method to judge the individual components according to their quality. This is the purpose of the Base Specifications.

3.10

Base Specifications

3.11

(1) Class 3, economical quality

(2) Class 3, economical quality

(3) Class 5, average quality

Examples number 1 and 2 have inexpensive front porches and very plain features. Number 3 has a design with more styling and appeal than the other examples.

3.12

(1) Class 7, high quality

(2) Class 7, high quality

(3) Class 5, average quality

Example number 1 appears to have high grade siding, doors, windows, and finish. Number 2 has the same general design characteristics and quality of construction. Number 3 has an *average* quality appearance with *average* quality workmanship and materials.

3.13

(1) Class 5

(2) Class 3

(3) Class 7

(4) Class 7

(5) Class 3

(6) Class 7

(7) Class 5

The other kinds of distinguishing interior and exterior features from the Base Specifications are found in the *Cost Factors Supplement.* Keep them all in mind when determining classes of construction.

3.14 Exercise

1. Class 7, high quality

2. Class 3, economical quality

3. Class 5, average quality

Lesson 4: Calculating Replacement Costs

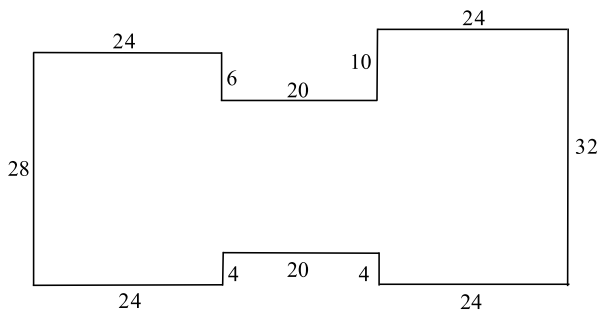
4.1

In Lesson 3 you studied three of the eight classes of construction for residential structures. You learned that the classes are differentiated by: Base Specifications, Class Illustrations and _____(Size / Class Features).

4.2

The objective of Lesson 3 was for you, the appraiser, to be able to correctly classify a residential property according to its Class Features, Base Specifications, and Class Illustration. The replacement cost variations between classes makes it a must to have the correct classification for each subject property. Thus a properly classed house will allow you to develop an accurate estimate of its replacement cost new, and to complete a major step in the cost approach to value.

Assume that after careful observation and notation of the Class Features, Class Illustrations, and Base Specifications of a subject property, that the dwelling is a class 5 conventional house. Note from the Residential Appraisal Card and the *Cost Factors Supplement* that the base factors of a class 5 residence (or of any residence) are broken down on a cost per square foot basis. Calculate the area or square footage of the following class 5 residence: Note: living area only is represented below--no garage or porches are shown.



4.3

What is the base factor per square foot of the living area for this residence? _____

4.4

When calculating total replacement costs for a structure, you begin by separating the basic features from the extra features. You learned in Lesson 3 that plumbing features are _____ (base / added) for each class of construction.

4.5

Bedrooms and kitchens are basic items. However, kitchen features like built-in electric ranges and ovens are not basic; they are _____. (base / added)

4.6

Extras include basements, attics, fireplaces, built-in ovens, ranges, heating and cooling, and plumbing. You can see these items listed in the *Cost Factors Supplement* under each class heading. The replacement costs for these items are figured separately and then added to the base replacement costs or lump sum column. If a structure has an item not included in the base specifications, an amount is _____ (added / subtracted) from the base factor or from the lump sum column.

4.7

We've already learned that the quality and replacement cost of a structure per square foot is determined by the quality and area of the first floor of the structure. When calculating the cost of a two story house, would the second floor have the same base factor as the first floor? _____ (yes / no)

4.8

Now estimate the replacement cost per square foot of a 20′ x 50′ two-story class 5 house with a full brick veneer front wall. Show the calculations necessary to determine the answers to each question.

What is the total floor area cost of this two-story house? _____.

What is the added cost of the full 8′ brick veneer wall? _____.

What is the total replacement cost? _____.

What is the total cost per square foot of this two-story house? _____

4.9

In order to determine the base cost factor for a residence, you first must recognize the classification, then_____ (calculate the area / count the stories), and apply the base specifications.

4.10

Now, in order to calculate the **total replacement cost of a structure**, we will have to multiply the base cost factor per square foot by the _____ (number of rooms / number of square feet of area) in the structure and also add for any extra component costs or adjustment factors as needed.

4.11

You will find that the residential appraisal card and the *Cost Factors for Residential Buildings* book work easily together. They were designed for use in Oregon's mass appraisal program to give appraisers a quick and accurate method of estimating replacement cost new. Study the portion of a sample residential appraisal card shown below. Your office may use a residential inventory card similar to the example.

RESIDENTIAL INVENTORY CARD

		SQ. FT. ITEMS		LUMP SUMS	
YR BUILT: _____ EFF YB: _____ REMODELED: _____ RENTAL $ _____ **SALE:** DATE_____ $_____		+	-	+	-
PHYS. COND: P F A G **FUNC. UTIL:** P F A G **INSPECT. LEVEL:** EXT ONLY INTERIOR OWNER TENANT OTHER					
CLASS: ____ SGL MULTI: 2 3 4 **STORIES:** 1 1½ 2 3 BSMT BASE FACTOR $					
FOUNDATION	CONC CONC BLOCK **BRICK** STONE FRAME SLAB PILINGS: WOOD / METAL				
EXTERIOR	DBL SGL BOX **SIDING:** T1-11 BEVEL SHGL SHAKE COMPOSITE METAL VERT B&B LOG STUCCO ASBESTOS RUSTIC CONC BLK **BRICK:** VENEER 4' 8' SOLID STONE TRIM OTHER_____				
ROOF	GABLE HIP FLAT SHED GAMBREL A-FRAME OTHER_____ **PITCH:** LOW AVG STEEP **SHINGLES:** CEDAR METAL 3-TAB COMP **ARCH:** LT MED HVY **SHAKES:** LT MED HVY **TILE:** CONC / CLAY BUILT-UP ROLL BKD ENAMEL SLATE COPPER OTHER_____				
1ST FLOOR	DBL SGL FIR PLY WD H.WD VINYL CONC TILE CARPET LAMINATE OTHER_____ **RMS:** LIV DIN FAM KIT UTIL HALL DEN ___BD ___BATH OTHER_____				
PARTITIONS	DRYWALL PLASTER T&G PLYWD PANELING OTHER_____				
OTHER INTERIOR CONST.	CLASS: ____ **BUILT-INS & CABINETS:** ECON FAIR AVG GOOD HIGH _____ **COUNTERTOPS:** LAMINATE TILE GRANITE SOLID SURFACE OTHER_____ **APPLIANCES:** ELECT GAS BASIC SET DI- RANGE **OVEN:** SGL DBL WARMING DRAWER COMMERCIAL COOKTOP W/BLT-IN EXHST/GRILL MICRO HD-FAN DISH DISPOSAL TRASH COMP BI-REFRIG WINE COOLER				
PLUMBING	CLASS: ____ TOTAL: _____ FULL BATHS _____ HALF BATHS _____ BATHTUB $_____ / _____ LAVATORY $_____ / _____ KITCHEN SINK $_____ _____ + FBRGLS SURR $_____ / _____ TOILET $_____ / _____ BAR SINK $_____ _____ + TILE SURR $_____ / _____ GARDEN TUB $_____ / _____ HOT WATER DISP $_____ _____ + GLASS DOOR $_____ / _____ JET TUB $_____ / _____ LAUNDRY TUB $_____ _____ STALL SHWR-FBGLS $_____ / _____ _____ $_____ / _____ WATER HEATER $_____ _____ STALL SHWR-TILE $_____ / _____ _____ $_____ / _____ _____ $_____				
HEATING	CLASS: ____ ELEC BSBD WALL UNITS CEILING FA A/C RADIANT:HYDRO / ELEC HEAT PUMP GAS / ELEC OTHER _____ TOTAL AREA HEATED_____SQFT x $_____/SQFT				
FIREPLACE	CLASS: ____ WD STOVE PELLET GAS STOVE HEAT SHIELD DIR VENT GAS FP **MASONRY:** SGL SEE-THRU BACKED STCKD PREFAB **CHIMNEY:** 1 STY 2 STY				
BASEMENT	CLASS:____ FULL DAYLIGHT UNFIN FIN **WALLS:** CONC BLK **WALL CVR:** PLS DRYWL WD PANEL **FLOOR:** CONC WOOD **FLR CVR:** CONC WOOD TILE CARPET LAMINATE **RMS:** FAM MECH STRG UTIL GARAGE DEN ___BD ___BATH **HEAT:**_____SQFT x $_____/SQFT				
ATTIC OR UPPER STORIES	CLASS:____ UNFIN FIN COMP TO MAIN FLR / LOW CST **FLOOR:** DBL SGL HDWD TILE VINYL LAM CARPET **RMS:** ___BEDRM ___BATH HALL UTIL DEN NOOK STRG _____ **HEAT:**_____SQFT x $_____/SQFT				
ELECTRICAL	CLASS: ____ INTERCOM MUSIC SYS **THEATER** SECURITY SYS ELEVATOR VAC SYS WINE CELLAR				
PORCH(S)	WOOD CONC **ROOF:** OPEN SIMPLE ROOF EXTN SIZE: _____ INCLUDED IN HSE SQ FT Y / N				
	TOTALS +				
	TOTALS -				

You can see that there are areas on the form to indicate detailed information about such structural features as these: the number of stories, foundation types, exterior materials, roof, lighting, plumbing, heating, fireplace, basement, attic, etc.

4.12

Fill in the blank form below with the following information:

A house you are appraising is a one-story 1,200 square foot class 3 house with a concrete foundation, single wall construction with T1-11 siding, a gable roof with light weight 3-tab composition cover, carpet over plywood on all three bedroom & living room floors, vinyl flooring in the kitchen, utility room and single full bathroom, drywall interior walls, an electric drop-in range, hood-fan, kitchen sink, dishwasher, and water heater, veneer cabinets with laminate countertops in the kitchen and bath, electric forced air heat, no fireplace, and no basement or attic or garage. Physical condition, functional utility and appearance are all of average rating. Then you may check your answers in the Answer Section at the end of this lesson.

RESIDENTIAL INVENTORY CARD

		SQ. FT. ITEMS		LUMP SUMS	
YR BUILT: _____ EFF YB: _____ REMODELED: _____ RENTAL $ _____ **SALE:** DATE_____ $_____		+	-	+	-
PHYS. COND: P F A G **FUNC. UTIL:** P F A G **INSPECT. LEVEL:** EXT ONLY INTERIOR OWNER TENANT OTHER					
CLASS: ____ SGL MULTI: 2 3 4 **STORIES:** 1 1½ 2 3 BSMT BASE FACTOR $					
FOUNDATION	CONC CONC BLOCK BRICK STONE FRAME SLAB PILINGS: WOOD / METAL				
EXTERIOR	DBL SGL BOX **SIDING:** T1-11 BEVEL SHGL SHAKE COMPOSITE METAL VERT B&B LOG STUCCO ASBESTOS RUSTIC CONC BLK **BRICK:** VENEER 4' 8' SOLID STONE TRIM OTHER_____				
ROOF	GABLE HIP FLAT SHED GAMBREL A-FRAME OTHER_____ **PITCH:** LOW AVG STEEP **SHINGLES:** CEDAR METAL 3-TAB COMP **ARCH:** LT MED HVY **SHAKES:** LT MED HVY TILE: CONC / CLAY BUILT-UP ROLL BKD ENAMEL SLATE COPPER OTHER_____				
1ST FLOOR	DBL SGL FIR PLY WD H.WD VINYL CONC TILE CARPET LAMINATE OTHER_____ **RMS:** LIV DIN FAM KIT UTIL HALL DEN ___BD ___BATH OTHER_____				
PARTITIONS	DRYWALL PLASTER T&G PLYWD PANELING OTHER_____				
OTHER INTERIOR CONST.	CLASS: ___ **BUILT-INS & CABINETS:** ECON FAIR AVG GOOD HIGH _____ **COUNTERTOPS:** LAMINATE TILE GRANITE SOLID SURFACE OTHER_____ **APPLIANCES:** ELECT GAS BASIC SET DI-RANGE **OVEN:** SGL DBL WARMING DRAWER COMMERCIAL COOKTOP W/BLT-IN EXHST/GRILL MICRO HD-FAN DISH DISPOSAL TRASH COMP BI-REFRIG WINE COOLER				
PLUMBING	CLASS: ___ TOTAL: _____ **FULL BATHS** _____ **HALF BATHS** _____ BATHTUB $ _____ / _____ LAVATORY $ _____ / _____ KITCHEN SINK $ _____ _____ + FBRGLS SURR $ _____ / _____ TOILET $ _____ / _____ BAR SINK $ _____ _____ + TILE SURR $ _____ / _____ GARDEN TUB $ _____ / _____ HOT WATER DISP $ _____ _____ + GLASS DOOR $ _____ / _____ JET TUB $ _____ / _____ LAUNDRY TUB $ _____ _____ STALL SHWR-FBGLS $ _____ / _____ _____ $ _____ / _____ WATER HEATER $ _____ _____ STALL SHWR-TILE $ _____ / _____ _____ $ _____ / _____ _____ $ _____				
HEATING	CLASS: ___ ELEC BSBD WALL UNITS CEILING FA A/C RADIANT:HYDRO / ELEC HEAT PUMP GAS / ELEC OTHER _____ TOTAL AREA HEATED_____SQFT x $_____/SQFT				
FIREPLACE	CLASS: ___ WD STOVE **PELLET** GAS STOVE HEAT SHIELD DIR VENT GAS FP **MASONRY:** SGL SEE-THRU BACKED STCKD PREFAB **CHIMNEY:** 1 STY 2 STY				
BASEMENT	CLASS:___ FULL DAYLIGHT UNFIN FIN **WALLS:** CONC BLK **WALL CVR:** PLS DRYWL WD PANEL **FLOOR:** CONC WOOD **FLR CVR:** CONC WOOD TILE CARPET LAMINATE **RMS:** FAM MECH STRG UTIL GARAGE DEN ___BD ___BATH **HEAT:**_____SQFT x $_____/SQFT				
ATTIC OR UPPER STORIES	CLASS:___ UNFIN FIN COMP TO MAIN FLR / LOW CST **FLOOR:** DBL SGL HDWD TILE VINYL LAM CARPET **RMS:** ___BEDRM ___BATH HALL UTIL DEN NOOK STRG _____ **HEAT:**_____SQFT x $_____/SQFT				
ELECTRICAL	CLASS: ___ INTERCOM MUSIC SYS **THEATER** SECURITY SYS ELEVATOR VAC SYS WINE CELLAR				
PORCH(S)	WOOD CONC **ROOF:** OPEN SIMPLE ROOF EXTN SIZE: _____ INCLUDED IN HSE SQ FT Y / N				
	TOTALS +				
	TOTALS -				

4.13

Using the *Cost Factors Supplement*, when appraising a house as described in the previous problem (4.12),

What is the base factor?_____

What is the adjustment for heating? _____

What are the adjustments for the:

Drop-in range? _____

Hood-Fan? _____

Dishwasher? _____

Plumbing?_____

4.14

Now, with all adjustments made, calculate the replacement cost new. _____

4.15

The figures in the supplemental costs tables were calculated in Portland, Oregon, as of a previous point in time. Since costs may vary since that year and for your location, you will have to perform a study of current costs in your area to determine if the Portland cost factors need to be modified to your location's current local cost. [Refer to the *Cost Factors for Residential Buildings Manual,* page 2 on how to calculate local cost modifiers (LCM)].

What local cost modifier was used in the Answer Section for Frame 4.12? _____

4.16

For the sake of simplicity, you can add the base factor value and the lump sum column together for a total base cost. The total base cost is then _____ (multiplied / divided) by the LCM to equal the replacement cost new.

Exercise

To assure yourself of your knowledge to this point in the program, please take a few minutes to answer these questions as completely as possible.

1. You are to appraise a property that is of class 5 average construction. Read the items shown below. In the space provided, indicate the value added or circle "Base" if the item is included in the base specifications.

$_____ or Base	2 ½ Baths
$_____ or Base	Average quality laminate or tile countertops and backsplash
$_____ or Base	A kitchen with a drop-in range, hood and fan, dishwasher, garbage disposer
$_____ or Base	A roof with light weight architectural composition shingle cover
$_____ or Base	A stacked interior fireplace

2. Using the *Cost Factors Supplement* supplied, calculate the base replacement cost new for the following property (use an LCM of 108 percent).

   _____ Single story class 5 average ranch style house with dimensions 36′ by 40′ and a full unfinished basement.

3. Using the *Cost Factors Supplement*, calculate the total replacement costs for the property described below (remember the local modifier is 108 percent).

   _____ A class 7, high quality home with 2 ½ baths, 3 bedrooms, single story, 3,000 square feet of area with a clay tile roof.

4. Use the form below with the information given to appraise a new house. What is the depreciated replacement cost? _____

		SQ. FT. ITEMS		LUMP SUMS	
YR BUILT: _____ EFF YB: _____ REMODELED: _____ RENTAL $ _____ SALE: DATE _____ $ _____		+	-	+	-
PHYS. COND: P F (A) G FUNC. UTIL: P F (A) G INSPECT. LEVEL: EXT ONLY INTERIOR OWNER TENANT OTHER					
CLASS: 5 (SGL) MULTI: 2 3 4	STORIES: 1 1½ (2) 3 BSMT BASE FACTOR $				
FOUNDATION (CONC) CONC BLOCK BRICK STONE FRAME SLAB PILINGS: WOOD / METAL					
EXTERIOR	(DBL) SGL BOX SIDING: T1-11 (BEVEL) SHGL SHAKE (COMPOSITE) METAL VERT B&B LOG STUCCO ASBESTOS RUSTIC CONC BLK BRICK: VENEER 4' 8' SOLID (STONE TRIM) OTHER _____				
ROOF	(GABLE) HIP FLAT SHED GAMBREL A-FRAME OTHER _____ PITCH: LOW AVG STEEP SHINGLES: CEDAR METAL 3-TAB COMP (ARCH: LT) MED HVY SHAKES: LT MED HVY TILE: CONC / CLAY BUILT-UP ROLL BKD ENAMEL SLATE COPPER OTHER _____				
1ST FLOOR	(DBL) SGL FIR (PLY WD) H.WD VINYL CONC (TILE CARPET LAMINATE) OTHER _____ RMS: (LIV) DIN (FAM) (KIT) (UTIL) HALL DEN ___ BD 1/2 BATH OTHER _____				
PARTITIONS	(DRYWALL) PLASTER T&G PLYWD PANELING OTHER _____				
OTHER INTERIOR CONST.	CLASS: 5 BUILT-INS & CABINETS: ECON FAIR (AVG) GOOD HIGH _____ COUNTERTOPS: LAMINATE (TILE) GRANITE SOLID SURFACE OTHER _____ APPLIANCES: (ELECT) (GAS) BASIC SET (DI-RANGE) OVEN: SGL DBL WARMING DRAWER COMMERCIAL COOKTOP W/BLT-IN EXHST/GRILL MICRO (HD-FAN) (DISH) (DISPOSAL) TRASH COMP BI-REFRIG WINE COOLER				
PLUMBING	CLASS: 5 TOTAL: 2 FULL BATHS 1 HALF BATHS 2 BATHTUB $ _____ / 4 LAVATORY $ _____ / 1 KITCHEN SINK $ _____ _____ + FBRGLS SURR $ _____ / 3 TOILET $ _____ / _____ BAR SINK $ _____ 2 + TILE SURR $ _____ / _____ GARDEN TUB $ _____ / _____ HOT WATER DISP $ _____ _____ + GLASS DOOR $ _____ / _____ JET TUB $ _____ / 1 LAUNDRY TUB $ _____ _____ STALL SHWR-FBGLS $ _____ / _____ _____ $ _____ / 1 WATER HEATER $ _____ 1 STALL SHWR-TILE $ _____ / _____ _____ $ _____ / _____ _____ $ _____				
HEATING	CLASS: 5 ELEC BSBD WALL UNITS CEILING (FA) A/C RADIANT:HYDRO / ELEC HEAT PUMP (GAS) / ELEC OTHER _____ TOTAL AREA HEATED 1810 * SQFT x $ _____ /SQFT				
FIREPLACE	CLASS: 5 WD STOVE PELLET GAS STOVE HEAT SHIELD (DIR VENT GAS FP) MASONRY: SGL SEE-THRU BACKED STCKD PREFAB CHIMNEY: 1 STY 2 STY				
~~BASEMENT~~	CLASS: _____ FULL DAYLIGHT UNFIN FIN WALLS: CONC BLK WALL CVR: PLS DRYWL WD PANEL FLOOR: CONC WOOD FLR CVR: CONC WOOD TILE CARPET LAMINATE RMS: FAM MECH STRG UTIL GARAGE DEN ___ BD ___ BATH HEAT: _____ SQFT x $ _____ /SQFT				
ATTIC OR UPPER STORIES	CLASS: 5 UNFIN (FIN COMP TO MAIN FLR) / LOW CST FLOOR (DBL) SGL HDWD (TILE) VINYL LAM (CARPET) RMS: 4 BEDRM 2 BATH (HALL) UTIL DEN (NOOK) STRG _____ HEAT: 780 SQFT x $ _____ /SQFT				
ELECTRICAL	CLASS: 5 INTERCOM MUSIC SYS THEATER (SECURITY SYS) ELEVATOR VAC SYS WINE CELLAR 8-Zone Hardwired				
PORCH(S)	WOOD CONC ROOF: OPEN SIMPLE ROOF EXTN SIZE: _____ INCLUDED IN HSE SQ FT (Y) N				

REMARKS:

*HINT: Total Area Heated =

Total Sq. Ft. 1st Floor plus

Half Sq. Ft. 2nd Floor

See "Special Instructions" in the

Cost Factors Supplement, page 9.

SUMMARY OF DWELLING COMPUTATION

TOTALS	+				
	-				

NET LUMP SUM ADJUSTMENT ..... $ _____

DWELLING _____ SQ FT x _____ R2 UNITS = 1420 SQ FT x $ _____ /SQFT $ _____

TOTAL BASE COST..... $ _____

COST INDEX 108 % x QUAL ADJ _____ % = 108 % MODIFIER x BASE COST = $ _____

REPLACEMENT COST NEW..... $ _____

DEPRECIATION: _____ % PHYS x _____ % FUNC = 100 % GOOD

DEPRECIATED REPLACEMENT COST (TRANSFER TO VALUE SUMMARY) $ _____

Lesson 4: Answers

4.1

Class Features

You know the three elements that determine the quality of construction or class.

4.2

1800 square feet

4.3

$90.67

The answer was found under class 5, average 1800 sq. ft. one story house.

4.4

Added

Plumbing features are not included in the base specifications.

4.5

Added

It is assumed that a standard kitchen has countertops and built-in cabinets, proportionate to the overall size of the house. Extras like built-in ovens, dishwashers and garbage disposals are added to the lump sum column.

4.6

Added

4.7

No

Typically, the construction cost of upper levels, attics and basements will be lower than first floor/or main floor costs.

4.8

Total Floor Area Cost	$180,580
Brick Veneer Cost	$5,218
Total Replacement Cost	$185,798
Total Cost per Square Foot	$92.90
First floor factor $114.65 x (20′x50′ = 1000 square feet)	$114,650
Second floor factor $65.93 x 1000 square feet	$ 65,930
8′ full brick veneer wall, 50′ x $104.35	$ 5,218
Total Replacement Cost	$185,798 ÷ 2,000 = $92.90

4.9

Calculate the area

The class and area of the structure allows you to determine what base factor table to use.

4.10

Number of square feet of area

4.12

See completed appraisal form on the next page.

		SQ. FT. ITEMS		LUMP SUMS	
	YR BUILT: _____ EFF YB: _____ REMODELED: _____ RENTAL $ _____ SALE: DATE _____ $_____	+	-	+	-
	PHYS. COND: P F (A) G FUNC. UTIL: P F (A) G INSPECT. LEVEL: EXT ONLY INTERIOR OWNER TENANT OTHER				
	CLASS: 3 (SGL) MULTI: 2 3 4 STORIES: (1) 1½ 2 3 BSMT BASE FACTOR $				
FOUNDATION	(CONC) CONC BLOCK BRICK STONE FRAME SLAB PILINGS: WOOD / METAL				
EXTERIOR	DBL (SGL) BOX SIDING (T1-11) BEVEL SHGL SHAKE COMPOSITE METAL VERT B&B LOG STUCCO ASBESTOS RUSTIC CONC BLK BRICK: VENEER 4' 8' SOLID STONE TRIM OTHER_____				
ROOF	(GABLE) HIP FLAT SHED GAMBREL A-FRAME OTHER_____ PITCH: LOW AVG STEEP SHINGLES: CEDAR METAL (3-TAB COMP) ARCH: LT MED HVY SHAKES: LT MED HVY TILE: CONC / CLAY BUILT-UP ROLL BKD ENAMEL SLATE COPPER OTHER_____				
IST FLOOR	(DBL) SGL FIR (PLY WD) H.WD (VINYL) CONC TILE (CARPET) LAMINATE OTHER_____ RMS: (LIV) DIN FAM (KIT) (UTIL) HALL DEN 3 BD 1 BATH OTHER_____				
PARTITIONS	(DRYWALL) PLASTER T&G PLYWD PANELING OTHER_____				
OTHER INTERIOR CONST.	CLASS: 3 BUILT-INS & CABINETS: (ECON) FAIR AVG GOOD HIGH _____ COUNTERTOPS: (LAMINATE) TILE GRANITE SOLID SURFACE OTHER_____ APPLIANCES: (ELECT) GAS BASIC SET (DI- RANGE) OVEN: SGL DBL WARMING DRAWER COMMERCIAL COOKTOP W/BLT-IN EXHST/GRILL MICRO (HD-FAN) (DISH) DISPOSAL TRASH COMP BI-REFRIG WINE COOLER				
PLUMBING	CLASS 3 TOTAL: 1 FULL BATHS _____ HALF BATHS 1 BATHTUB $ _____ / 1 LAVATORY $ _____ / 1 KITCHEN SINK $ _____ _____ + FBRGLS SURR $ _____ / 1 TOILET $ _____ / _____ BAR SINK $ _____ _____ + TILE SURR $ _____ / _____ GARDEN TUB $ _____ / _____ HOT WATER DISP $ _____ _____ + GLASS DOOR $ _____ / _____ JET TUB $ _____ / _____ LAUNDRY TUB $ _____ _____ STALL SHWR-FBGLS $ _____ / _____ _____ $ _____ / 1 WATER HEATER $ _____ _____ STALL SHWR-TILE $ _____ / _____ _____ $ _____ / _____ _____ $ _____				
HEATING	CLASS: 3 ELEC BSBD WALL UNITS CEILING (FA) A/C RADIANT:HYDRO / ELEC HEAT PUMP GAS / (ELEC) OTHER _____ TOTAL AREA HEATED 1200 SQFT x $_____/SQFT				
~~FIREPLACE~~	CLASS: ____ WD STOVE PELLET GAS STOVE HEAT SHIELD DIR VENT GAS FP MASONRY: SGL SEE-THRU BACKED STCKD PREFAB CHIMNEY: 1 STY 2 STY				
~~BASEMENT~~	CLASS:____ FULL DAYLIGHT UNFIN FIN WALLS: CONC BLK WALL CVR: PLS DRYWL WD PANEL FLOOR: CONC WOOD FLR CVR: CONC WOOD TILE CARPET LAMINATE RMS: FAM MECH STRG UTIL GARAGE DEN ___BD ___BATH HEAT:_____SQFT x $_____/SQFT				
ATTIC OR ~~UPPER STORIES~~	CLASS:____ UNFIN FIN COMP TO MAIN FLR / LOW CST FLOOR: DBL SGL HDWD TILE VINYL LAM CARPET RMS: ___BEDRM ___BATH HALL UTIL DEN NOOK STRG _____ HEAT:_____SQFT x $_____/SQFT				
ELECTRICAL	CLASS: 3 INTERCOM MUSIC SYS THEATER SECURITY SYS ELEVATOR VAC SYS WINE CELLAR				
PORCH(S)	WOOD CONC ROOF: OPEN SIMPLE ROOF EXTN SIZE: _____ INCLUDED IN HSE SQ FT Y / N				

REMARKS:

SUMMARY OF DWELLING COMPUTATION

TOTALS	+				
	-				

NET LUMP SUM ADJUSTMENT ..... $ _____

DWELLING 1200 SQ FT x _____ R2 UNITS = 1200 SQ FT x $_____/SQFT $ _____

TOTAL BASE COST..... $ _____

COST INDEX 108 % x QUAL. ADJ _____ % = 108 % MODIFIER x BASE COST = $ _____

REPLACEMENT COST NEW..... $ _____

DEPRECIATION: _____ % PHYS x _____ % FUNC = _____ % GOOD

DEPRECIATED REPLACEMENT COST (TRANSFER TO VALUE SUMMARY) $ _____

4.13

Base Factor $58.25

The base factor is obtained from the *Cost Factors Supplement* for Conventional Class 3 Cost Factor Tables, One Story Base Factors. The subject property is 1,200 square feet. Because the cost factors are given in 10-square foot increments, no interpolation is necessary. Simply select the factor for the square foot area nearest that of your subject's. You now know how to select an appropriate base cost factor.

Heating $2.45 x 1200 sq ft = $2,940

An adjustment is made because there is no heating provided in the base specifications.

Drop-in Range $550

Hood-Fan $180

Dishwasher $340 = $1,070

Plumbing $2,000
(full bath ,water heater, & kitchen sink)

The factors were found in the Conventional Class 3 Adjustment Factors for Interior Components and Plumbing.

4.14

Replacement Cost New $81,983

See completed appraisal form on the next page.

		SQ. FT. ITEMS		LUMP SUMS	
YR BUILT: _____ EFF YB: _____ REMODELED: _____ RENTAL $ _____ SALE: DATE _____ $ _____					
PHYS. COND: P F (A) G FUNC. UTIL: P F (A) G INSPECT. LEVEL: EXT ONLY INTERIOR OWNER TENANT OTHER		+	-	+	-
CLASS: 3 (SGL) MULTI: 2 3 4 STORIES: (1) 1½ 2 3 BSMT BASE FACTOR $	58.25				
FOUNDATION	(CONC) CONC BLOCK BRICK STONE FRAME SLAB PILINGS: WOOD / METAL				
EXTERIOR	DBL (SGL) BOX SIDING: (T1-11) BEVEL SHGL SHAKE COMPOSITE METAL VERT B&B LOG STUCCO ASBESTOS RUSTIC CONC BLK BRICK: VENEER 4' 8' SOLID STONE TRIM OTHER _____				
ROOF	(GABLE) HIP FLAT SHED GAMBREL A-FRAME OTHER _____ PITCH: LOW AVG STEEP SHINGLES: CEDAR METAL (3-TAB COMP) ARCH: LT MED HVY SHAKES: LT MED HVY TILE: CONC / CLAY BUILT-UP ROLL BKD ENAMEL SLATE COPPER OTHER _____				
1ST FLOOR	(DBL) SGL FIR (PLY WD) H.WD (VINYL) CONC TILE (CARPET) LAMINATE OTHER _____ RMS: (LIV) DIN FAM (KIT) (UTIL) HALL DEN 3 BD 1 BATH OTHER _____				
PARTITIONS	(DRYWALL) PLASTER T&G PLYWD PANELING OTHER _____				
OTHER INTERIOR CONST.	CLASS: 3 BUILT-INS & CABINETS: (ECON) FAIR AVG GOOD HIGH _____ COUNTERTOPS: (LAMINATE) TILE GRANITE SOLID SURFACE OTHER _____ APPLIANCES: (ELECT) GAS BASIC SET (DI- RANGE) OVEN: SGL DBL WARMING DRAWER COMMERCIAL COOKTOP W/BLT-IN EXHST/GRILL MICRO (HD-FAN) (DISH) DISPOSAL TRASH COMP BI-REFRIG WINE COOLER				$1,070
PLUMBING	CLASS 3 TOTAL: 1 FULL BATHS _____ HALF BATHS 1 BATHTUB $ _____ / 1 LAVATORY $ _____ / 1 KITCHEN SINK $ _____ _____ + FBRGLS SURR $ _____ / 1 TOILET $ _____ / _____ BAR SINK $ _____ _____ + TILE SURR $ _____ / _____ GARDEN TUB $ _____ / _____ HOT WATER DISP $ _____ _____ + GLASS DOOR $ _____ / _____ JET TUB $ _____ / _____ LAUNDRY TUB $ _____ _____ STALL SHWR-FBGLS $ _____ / _____ $ _____ / 1 WATER HEATER $ _____ _____ STALL SHWR-TILE $ _____ / _____ $ _____ / _____ $ _____				$2,000
HEATING	CLASS: 3 ELEC BSBD WALL UNITS CEILING (FA) A/C RADIANT: HYDRO / ELEC HEAT PUMP GAS / (ELEC) OTHER _____ TOTAL AREA HEATED 1200 SQFT x $ _____ /SQFT				$2,940
~~FIREPLACE~~	CLASS: ___ WD STOVE PELLET GAS STOVE HEAT SHIELD DIR VENT GAS FP MASONRY: SGL SEE-THRU BACKED STCKD PREFAB CHIMNEY: 1 STY 2 STY				
~~BASEMENT~~	CLASS: ____ FULL DAYLIGHT UNFIN FIN WALLS: CONC BLK WALL CVR: PLS DRYWL WD PANEL FLOOR: CONC WOOD FLR CVR: CONC WOOD TILE CARPET LAMINATE RMS: FAM MECH STRG UTIL GARAGE DEN ___ BD ___ BATH HEAT: _____ SQFT x $ _____ /SQFT				
ATTIC OR ~~UPPER~~ STORIES	CLASS: ____ UNFIN FIN COMP TO MAIN FLR / LOW CST FLOOR: DBL SGL HDWD TILE VINYL LAM CARPET RMS: ___ BEDRM ___ BATH HALL UTIL DEN NOOK STRG _____ HEAT: _____ SQFT x $ _____ /SQFT				
ELECTRICAL	CLASS: 3 INTERCOM MUSIC SYS THEATER SECURITY SYS ELEVATOR VAC SYS WINE CELLAR				
PORCH(S)	WOOD CONC ROOF: OPEN SIMPLE ROOF EXTN SIZE: _____ INCLUDED IN HSE SQ FT Y / N				

REMARKS:

SUMMARY OF DWELLING COMPUTATION

TOTALS					
	+	58.25		$6,010	
	-				

NET LUMP SUM ADJUSTMENT ..... $ 6,010

DWELLING 1200 SQ FT x _____ R2 UNITS = 1200 SQ FT x $ 58.25 /SQFT $ 69,900

TOTAL BASE COST ..... $ 75,910

COST INDEX 108 % x QUAL. ADJ _____ % = 108 % MODIFIER x BASE COST = $ 6,073

REPLACEMENT COST NEW ..... $ 81,983

4.15

108 percent

To give uniformity in answers, use a local cost modifier (LCM) of 108 percent throughout this course.

4.16

Multiplied

Exercise

1. $2,350 + $2,350 + $ 950 $5,650	2 ½ Baths
Base	Average quality laminate or tile countertops and backsplash
$ 900 $ 410 $ 720 $ 190 $2,220	A kitchen with a drop-in range, hood and fan, dishwasher, garbage disposer
Base	A roof with light weight architectural composition shingle cover
$7,900	A stacked interior fireplace

2. 36′ x 40′ = 1,440 square feet
   1,440 x $140.86 = $202,838 total base cost
   $202,838 x 108% = $219,065 replacement cost new

3. 3,000 sq. ft. x $223.14 = $669,420 floor area
   3,000 sq. ft. x $5.75 = $ 17,250 clay tile roof
   $8,300 + $8,300 + $3,800 = $ 20,400 2 ½ baths
   $707,070 total
   $707,070 x 108% = $763,636 replacement cost new

4. $232,573

See the following completed appraisal form.

		SQ. FT. ITEMS		LUMP SUMS	
		+	-	+	-
YR BUILT: _____ EFF YB: _____ REMODELED: _____ RENTAL $ _____ SALE: DATE_____ $_____					
PHYS. COND: P F (A) G FUNC. UTIL: P F (A) G INSPECT. LEVEL: EXT ONLY INTERIOR OWNER TENANT OTHER					
CLASS: 5 (SGL) MULTI: 2 3 4 STORIES: 1 1½ (2) 3 BSMT BASE FACTOR $	98.69				
FOUNDATION (CONC) CONC BLOCK BRICK STONE FRAME SLAB PILINGS: WOOD / METAL					
EXTERIOR (DBL) SGL BOX SIDING: T1-11 (BEVEL) SHGL SHAKE (COMPOSITE) METAL VERT B&B LOG STUCCO ASBESTOS RUSTIC CONC BLK BRICK: VENEER 4' 8' SOLID (STONE TRIM) OTHER_____					
ROOF (GABLE) HIP FLAT SHED GAMBREL A-FRAME OTHER_____ PITCH: LOW AVG STEEP SHINGLES: CEDAR METAL 3-TAB COMP (ARCH: LT) MED HVY SHAKES: LT MED HVY TILE: CONC / CLAY BUILT-UP ROLL BKD ENAMEL SLATE COPPER OTHER_____					
1ST FLOOR (DBL) SGL FIR (PLY WD) HWD VINYL CONC (TILE) CARPET (LAMINATE) OTHER_____ RMS: (LIV) DIN (FAM) (KIT) (UTIL) HALL DEN ___BD ½ BATH OTHER_____					
PARTITIONS (DRYWALL) PLASTER T&G PLYWD PANELING OTHER_____					
OTHER INTERIOR CONST.	CLASS: 5 BUILT-INS & CABINETS: ECON FAIR (AVG) GOOD HIGH _____ COUNTERTOPS: LAMINATE (TILE) GRANITE SOLID SURFACE OTHER_____ APPLIANCES (ELECT) (GAS) BASIC SET (DI- RANGE) OVEN: SGL DBL WARMING DRAWER COMMERCIAL COOKTOP W/BLT-IN EXHST/GRILL MICRO (HD-FAN) (DISH) (DISPOSAL) TRASH COMP BI-REFRIG WINE COOLER			$2,220	
PLUMBING	CLASS: 5 TOTAL: 2 FULL BATHS 1 HALF BATHS 2 BATHTUB $ 1,800 — 4 LAVATORY $ 2,000 — 1 KITCHEN SINK $ 600 ___ + FBRGLS SURR $ ___ — 3 TOILET $ 1,350 — ___ BAR SINK $ ___ 2 + TILE SURR $ 1,800 — ___ GARDEN TUB $ ___ — ___ HOT WATER DISP $ ___ ___ + GLASS DOOR $ ___ — ___ JET TUB $ ___ — 1 LAUNDRY TUB $ 550 ___ STALL SHWR-FBGLS $ ___ — ___ ___ $ ___ — 1 WATER HEATER $ 450 1 STALL SHWR-TILE $ 2,600 — ___ ___ $ ___ — ___ ___ $ ___			$11,150	
HEATING	CLASS: 5 ELEC BSBD WALL UNITS CEILING (FA) A/C RADIANT:HYDRO / ELEC HEAT PUMP (GAS) / ELEC OTHER _____ TOTAL AREA HEATED 1810 * SQFT x $ 2.30 /SQFT			$4,163	
FIREPLACE	CLASS: 5 WD STOVE PELLET GAS STOVE HEAT SHIELD (DIR VENT GAS FP) MASONRY: SGL SEE-THRU BACKED STCKD PREFAB CHIMNEY: 1 STY 2 STY			$2,600	
~~BASEMENT~~	CLASS:____ FULL DAYLIGHT UNFIN FIN WALLS: CONC BLK WALL CVR: PLS DRYWL WD PANEL FLOOR: CONC WOOD FLR CVR: CONC WOOD TILE CARPET LAMINATE RMS: FAM MECH STRG UTIL GARAGE DEN ___BD ___BATH HEAT:_____SQFT x $_____/SQFT				
ATTIC OR UPPER STORIES	CLASS: 5 UNFIN (FIN COMP TO MAIN FLR) / LOW CST FLOOR (DBL) SGL HDWD (TILE) VINYL LAM (CARPET) RMS: 4 BEDRM 2 BATH (HALL) UTIL DEN (NOOK) STRG _____ HEAT: 780 SQFT x $_____/SQFT			$54,772	
ELECTRICAL	CLASS: 5 INTERCOM MUSIC SYS THEATER (SECURITY SYS) ELEVATOR VAC SYS WINE CELLAR 8-Zone Hardwired			$ 300	
PORCH(S)	WOOD CONC ROOF: OPEN SIMPLE ROOF EXTN SIZE: _____ INCLUDED IN HSE SQ FT (Y) N				
TOTALS	+	98.69		$75,205	
	-				

REMARKS:

*HINT: Total Area Heated =

***Total** Sq. Ft. 1st Floor plus*

***Half** Sq. Ft. 2nd Floor*

See "Special Instructions" in the

Cost Factors Supplement, page 9.

1420 + (780 / 2) = 1810 sq ft heated area

SUMMARY OF DWELLING COMPUTATION

NET LUMP SUM ADJUSTMENT ..... $ 75,205

DWELLING _____ SQ FT x _____ R2 UNITS = 1420 SQ FT x $ 98.69 /SQFT $ 140,140

TOTAL BASE COST..... $ 215,345

COST INDEX 108 % x QUAL. ADJ _____ % = 108 % MODIFIER x BASE COST = $ 17,228

REPLACEMENT COST NEW..... $ 232,573

DEPRECIATION: _____ % PHYS x _____ % FUNC = 100 % GOOD

DEPRECIATED REPLACEMENT COST $ 232,573

Lesson 5: Preparing the Residential Property Appraisal Card

5.1

The cost approach to value is based upon the principle of substitution which states that "a buyer will not pay more for one property than for another that is equally desirable." Therefore, in the cost approach to value, a property's value is found by estimating the replacement cost new of the structure(s), then reducing that replacement cost for deterioration found from observation and the market. Finally, the land value is added to the depreciated replacement cost of the structure(s). Building deterioration is normally termed _____. (improvement / depreciation)

5.2

A house that has just been built and sold usually exhibits no depreciation. Using a percentage rating ranging from all good (new) to all bad (collapsing), you would say a new house was what percent good? _____ (100 percent good / 10 percent good)

5.3

And if the house had depreciated by 25 percent, you would call it _____ (25 percent good / 75 percent good).

5.4

Now, recalling the information in Lesson 4, if you determine the square foot area of a house and compute its value using the *Cost Factors Supplement,* you have estimated the replacement cost. The calculated replacement cost is (pick one):

_____ new _____ depreciated

5.5

In Lesson 1 we discussed the various types of depreciation; physical deterioration, functional obsolescence and externalities. To measure any form of accrued depreciation, you simply find the difference between the cost new (replacement cost) and the present value of improvement.

To estimate the present value of the structure, you need to allow for a loss in value from three sources; physical deterioration, functional obsolescence and externalities obsolescence. In other words, you need to adjust the replacement cost new by a percentage for _____ (size / accrued depreciation) to determine value.

5.6

Accrued depreciation is the loss in value from replacement cost new to present value and includes not only normal wear and tear, but also any loss in value due to impaired utility or _____. (obsolescence / observation)

5.7

Sawdust furnaces are no longer being used for central heating in homes. Two identical homes, built at the same time, with equal wear and tear have only one major difference. One has a sawdust furnace and one has an electric furnace. Which would be valued lower?

_____ the house with the electric furnace

_____ the house with the sawdust furnace

As a residential appraiser, you would be aware of current standards in design, materials, styles and functional utility in order to properly estimate the relative value of the components of a house. The functional utility of a house will still be considered to be good if the marketability of that house is not adversely affected by its functional deficiencies.

5.8

Any amount of accrued depreciation (which includes obsolescence) may be measured by comparing the subject to sales of comparable homes which represent _____. (replacement cost new / market value)

5.9

Sometimes you look at houses that were built in the same year, but you observe that the wear and tear on one is greater than the other. You will have to use market information to estimate the effective age of the structures. The effective age, rather than the actual age, is useful to determine the percent good. Assume that you are apprais-

ing a house that has had hard use with little upkeep. The house sells at the same market level as houses that are 20-years-old, but your records show that it was built only twelve years ago. What is the effective age of the house? _____ (12 years / 20 years)

5.10

Conversely, homes that have been remodeled or carefully maintained would have an effective age lower than their actual age. For example, market sales reflect that buyers see a 100-year-old house that has been well maintained and is in excellent condition and recently remodeled as having the same value as a 10-year-old house. What would its effective age be? _____ (10 years / 100 years)

5.11

The age indicated by the condition, utility, and marketability of the structure refers to the _____ (estimated / effective) age of a structure rather than its actual age.

5.12

To develop the indicated percent good of a property, you should follow these steps:

1. From the market, estimate the lot value.
2. Subtract the lot value from the sale prices to find the indicated market value for the buildings. Subtract the minor building values to find the residual house value.
3. Divide the residual house value by the replacement cost new to extract the percent good indicated by the market.

To establish a percent good, you divide the residual house value by the _____. (minor building value / replacement cost new)

5.13

You have three sales given below to analyze. They are all located in the same neighborhood as the subject properties. What percent good would you use if the properties are similar in nearly all respects? _____.

Sale 1	Adjusted sales price (for time)	$400,000
	Land value by comparison	84,000
	Residual building value	316,000
	Replacement cost new	395,000
	$316,000 ÷ $395,000 = ___% Good	
Sale 2	Adjusted sales price (for time)	$450,000
	Land value by comparison	75,000
	Residual building value	375,000
	Replacement cost new	468,750
	$375,000 ÷ $468,750 = ___% Good	
Sale 3	Adjusted sales price (for time)	$205,000
	Land value by comparison	75,000
	Residual building value	130,000
	Replacement cost new	162,500
	$130,000 ÷ $162,500 = ___% Good	

5.14

The cost approach to value is an extremely valuable tool in estimating market value because of its adaptability to the mass appraisal program. The cost approach, itself, will produce a reliable indication of market value if a well supported building replacement cost new is coupled with the market derived deduction for accrued depreciation. Therefore, we could say that:

Replacement cost new x _____ (percent good / actual age) = indicated market value

5.15

The remaining percent good extracted from market sales is the method most widely used for Oregon's mass appraisal program. It is recommended, when applicable, because of its quickness and accuracy. However, percent good information can be derived from various sources or methods. The use of the cost to cure method is helpful when market data is limited. Sometimes the percentage rent loss can help measure certain forms of accrued depreciation and can be helpful in finding the total percent good. All of the sources or methods mentioned may be helpful when estimating market value using the _____ (market approach / cost approach) to value.

5.16

You have now completed the cost approach to value on different properties. Specifically, you have estimated the replacement cost new of the building _____ (less land value plus depreciation / less depreciation plus land value).

Now try the following Exercise.

Exercise

Please read the following carefully and refer to the information as often as necessary to complete the exercise. Use the given information below and values from the *Cost Factors Supplement* to complete residential appraisal cards for each subject.

Suggested Procedure:

1. Compute the area.
2. Select base factors.
3. Adjust for variation from base specifications.
4. Compute the total base cost new.
5. Adjust for the local modifier and/or quality.
6. Compute replacement cost new.
7. Determine the percent good.
8. Compute depreciated replacement cost.
9. Determine cost of the garage and/or outbuildings.
10. Add depreciated replacement costs of dwelling, garage, and outbuildings for a total.
11. Adjust for externalities, if any, and set final value.
12. Compute land and building totals in remarks section.

General Information

Neighborhood Data — Summit City, Oregon

The subject properties are located in the southwest portion of Summit City. The area is predominantly homes of 10 to 15 years of age and of class 5, average quality. The residences in this neighborhood are homogenous in nature. The neighborhood was developed 15 years ago in an area well protected from special hazards or adverse influences. The subjects are found well within the boundaries of the neighborhood which are located close to schools, shopping centers, churches and recreation centers.

Sales Found in the Neighborhood: (typical, current and similar condition to subject)

Sale 1	Adjusted sales price (for time)	$300,000
	Land value by comparison	$75,000
	Residual building value	$225,000
	Replacement cost new	$250,000
Sale 2	Adjusted sales price (for time)	$320,000
	Land value by comparison	$75,000
	Residual building value	$245,000
	Replacement cost new	$271,500
Sale 3	Adjusted sales price (for time)	$290,000
	Land value by comparison	$80,000
	Residual building value	$210,000
	Replacement cost new	$235,900
Sale 4	Adjusted sales price (for time)	$305,000
	Land value by comparison	$80,000
	Residual building value	$225,000
	Replacement cost new	$247,400

Now complete the following Exercises for Subject #1 and Subject #2. Use the information given for both subjects, follow the suggested procedure as outlined above, and obtain the cost factors from the *Cost Factors Supplement*. The correct answers for these Exercises will appear in the Answer Section at the end of this lesson.

RESIDENTIAL APPRAISAL

SUBJECT #1

MAP _____ ACCT. NO. _____

TAX LOT _____ CODE AREA _____

OVER / UNDER IMPROVEMENT _____ % EXTERNALITIES _____ %

Reason: _____ TOTAL ADJUSTMENT _____ %

RECORD OF LAST APPRAISAL ORS 308.234

APPR _____ DATE _____ APPRAISED VALUE $_____

APPR _____ DATE _____ APPRAISED VALUE $_____

VALUE SUMMARY

DWELLING—DEPRECIATED REPLACEMENT $_____

GARAGE—DEPRECIATED REPLACEMENT COST $_____

OTHER IMPROVEMENTS $_____

TOTAL DEPRECIATED REPLACEMENT COST $_____

		SQ. FT. ITEMS		LUMP SUMS	
		+	-	+	-
YR BUILT: 1996 EFF YB: 1996 REMODELED: _____ RENTAL $ _____ SALE: DATE _____ $_____					
PHYS. COND: P F (A) G FUNC. UTIL: P F (A) G INSPECT. LEVEL: EXT ONLY (INTERIOR) (OWNER) TENANT OTHER					
CLASS: 5 (SGL) MULTI: 2 3 4 STORIES: (1) 1½ 2 3 BSMT BASE FACTOR $					
FOUNDATION	(CONC) CONC BLOCK BRICK STONE FRAME SLAB PILINGS: WOOD / METAL				
EXTERIOR	(DBL) SGL BOX SIDING: T1-11 (BEVEL) SHGL SHAKE COMPOSITE METAL VERT B&B LOG STUCCO ASBESTOS RUSTIC CONC BLK BRICK: VENEER 4' 8' SOLID (STONE TRIM) OTHER_____				
ROOF	(GABLE) HIP FLAT SHED GAMBREL A-FRAME OTHER_____ PITCH: LOW (AVG) STEEP SHINGLES: CEDAR METAL 3-TAB COMP (ARCH: LT) MED HVY SHAKES: LT MED HVY TILE: CONC / CLAY BUILT-UP ROLL BKD ENAMEL SLATE COPPER OTHER_____				
FIRST FLOOR	(DBL) SGL FIR PLY WD H.WD VINYL CONC (TILE) (CARPET) LAMINATE OTHER_____ RMS: (LIV) (DIN) (FAM) (KIT) (UTIL) (HALL) DEN 3 BD 2½ BATH OTHER_____				
PARTITIONS	(DRYWALL) PLASTER T&G PLYWD PANELING OTHER_____				
OTHER INTERIOR CONST.	CLASS: 5 BUILT-INS & CABINETS: ECON FAIR (AVG) GOOD HIGH _____ COUNTERTOPS: (LAMINATE) TILE GRANITE SOLID SURFACE OTHER_____ APPLIANCES: (ELECT) GAS (BASIC SET) DI-RANGE OVEN: SGL DBL WARMING DRAWER COMMERCIAL COOKTOP W/BLT-IN EXHST/GRILL (MICRO) HD-FAN DISH DISPOSAL TRASH COMP BI-REFRIG WINE COOLER				
PLUMBING	CLASS: 5 TOTAL: 2 FULL BATHS 1 HALF BATHS 1 BATHTUB $_____ / 4 LAVATORY $_____ / 1 KITCHEN SINK $_____ 1 + FBRGLS SURR $_____ / 3 TOILET $_____ / 1 BAR SINK $_____ ____ + TILE SURR $_____ / 1 GARDEN TUB $_____ / ____ HOT WATER DISP $_____ ____ + GLASS DOOR $_____ / ____ JET TUB $_____ / 1 LAUNDRY TUB $_____ ____ STALL SHWR-FBGLS $_____ / ____ _____ $_____ / 1 WATER HEATER $_____ 1 STALL SHWR-TILE $_____ / ____ _____ $_____ / ____ _____ $_____				
HEATING	CLASS: 5 ELEC BSBD WALL UNITS CEILING FA A/C RADIANT:HYDRO / ELEC (HEAT PUMP) GAS / (ELEC) OTHER _____ TOTAL AREA HEATED_____SQFT x $_____/SQFT				
FIREPLACE	CLASS: 5 WD STOVE PELLET GAS STOVE HEAT SHIELD DIR VENT GAS FP MASONRY: SGL SEE-THRU (BACKED) STCKD PREFAB CHIMNEY: 1 STY 2 STY				
~~BASEMENT~~	CLASS:____ FULL DAYLIGHT UNFIN FIN WALLS: CONC BLK WALL CVR: PLS DRYWL WD PANEL FLOOR: CONC WOOD FLR CVR: CONC WOOD TILE CARPET LAMINATE RMS: FAM MECH STRG UTIL GARAGE DEN ___BD ___BATH HEAT:_____SQFT x $_____/SQFT				
ATTIC OR ~~UPPER STORIES~~	CLASS:____ UNFIN FIN COMP TO MAIN FLR / LOW CST FLOOR: DBL SGL HDWD TILE VINYL LAM CARPET RMS: ___BEDRM ___BATH HALL UTIL DEN NOOK STRG _____ HEAT:_____SQFT x $_____/SQFT				
ELECTRICAL	CLASS: 5 INTERCOM MUSIC SYS THEATER SECURITY SYS ELEVATOR VAC SYS WINE CELLAR				
PORCH(S)	WOOD (CONC) ROOF: OPEN SIMPLE (ROOF EXTN) SIZE: 6 X 12 INCLUDED IN HSE SQ FT Y (N)				

REMARKS:

SUMMARY OF DWELLING COMPUTATION

TOTALS				
+				
-				

NET LUMP SUM ADJUSTMENT ..... $_____

DWELLING _____ SQ FT x _____ R2 UNITS = _____ SQ FT x $_____/SQFT $_____

TOTAL BASE COST ..... $_____

COST INDEX 108 % x QUAL. ADJ _____ % = 108 % MODIFIER x BASE COST = $_____

REPLACEMENT COST NEW ..... $_____

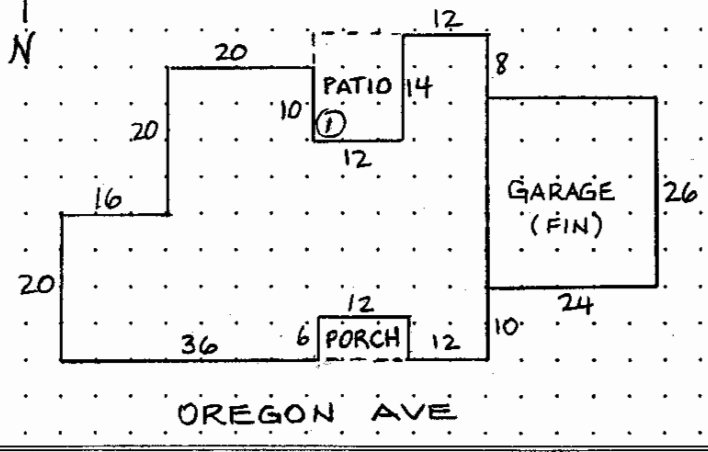
DEPRECIATION: _____ % PHYS x _____ % FUNC = _____ % GOOD

DEPRECIATED REPLACEMENT COST (TRANSFER TO VALUE SUMMARY) $_____

RESIDENTIAL APPRAISAL
SUBJECT #1 continued

BUILDING DIAGRAM AND OUTBUILDINGS

REMARKS:



NO.	TYPE / USE	DESCRIPTION: FOUND	FLOOR	ROOF	WALLS	MISC.	DIMENSIONS	AREA S.F. BASE ADJ BASE	REPL. COST LUMP SUM TOTAL	QUAL. INDEX % MDF.	REPL. COST	DEP. % PHYS % USE % GOOD %	DEPRECIATED REPLACEMENT COST
	GARAGE CLASS 5 (ATT) DET BSMT YR BUILT 96	CONC.	CONC.	ARCH.	DBL	GARAGE	24×26						
				COMP	FIN	DR. OPNR	X						
				LT. WT.		= 2	X						
1	PATIO	STAMPED		NO			12×14						
		CONCRETE		COVER			X						
							X						
2							X						
							X						
							X						
3							X						
							X						
							X						
4							X						
							X						
							X						
5							X						
							X						
							X						
6							X						
							X						
							X						
7							X						
							X						
							X						
8							X						
							X						
							X						

TOTAL DEPRECIATED REPLACEMENT COST—OUTBUILDINGS AND OTHER IMPROVEMENTS (TRANSFER TO VALUE SUMMARY) $

RESIDENTIAL APPRAISAL
SUBJECT #1 continued

PROPERTY CLASS _____ **LAND APPRAISAL** ACCOUNT NO. _____

PHOTO NO. _____ CODE NO. _____

RECORD OF APPRAISAL ORS 308.234		
SUBTOTAL "A"	$	75,000
INCREMENTS TO LAND "B"	$	
GROSS LAND VALUE "A" + "B"	$	
SITE ADJUSTMENTS _____%	$	75,000
TOTAL APPRAISED VALUE	$	75,000

APPR. BY _____ DATE _____

MARKET DATA

PURCHASE PRICE $_____
DATE
DEED _____ TYPE _____
CONTRACT
TRADE
RENT
LISTING

REMARKS:
Underground utilities with tree-lined streets
Typical site value is $75,000

ZONING	
RESIDENTIAL R-1	✓
MULTI-FAMILY	
COMMERCIAL	
NEIGHBORHOOD COM'L	
LT. INDUSTRIAL	
JVY. INDUSTRIAL	
AGRICULTURAL	

AREA IMPROVEMENTS	
SIDEWALKS	✓
CURBS	✓
STREET	✓
WATER	✓
SEWERS	✓
ELECTRICITY	✓

SITE ADJUSTMENTS	%
ROAD TYPE D G (P)	
MI. TO ALL WTHR RD _____	
MI. TO MKT CENTER _____	
TOPOGRAPHY	
VIEW	

STANDARD DEPTH	Feet
STANDARD DEPTH	100
EFFECTIVE DEPTH	100

COMPUTATION

DIMENSIONS OR ACRES	LAND CLASS	BASIC UNIT VALUE	ADJUSTMENT FACTORS			ADJUSTED UNIT VALUE	TOTAL VALUE
90 x 100		75,000					75,000
.21 ac	← TOTAL ACRES		SUBTOTAL "A" (TRANSFER TO VALUE SUMMARY) →				75,000

_____ COMPUTER / DATE

_____ CHECKED / DATE

RESIDENTIAL APPRAISAL

MAP _____ ACCT. NO. _____

SUBJECT #2

TAX LOT _____ CODE AREA _____

OVER / UNDER IMPROVEMENT _____ % EXTERNALITIES _____ %	VALUE SUMMARY
Reason: _____ TOTAL ADJUSTMENT _____ %	DWELLING—DEPRECIATED REPLACEMENT $ _____
RECORD OF LAST APPRAISAL ORS 308.234	GARAGE—DEPRECIATED REPLACEMENT COST $ _____
APPR _____ DATE _____ APPRAISED VALUE $ _____	OTHER IMPROVEMENTS $ _____
APPR _____ DATE _____ APPRAISED VALUE $ _____	TOTAL DEPRECIATED REPLACEMENT COST $ _____

		SQ. FT. ITEMS +	SQ. FT. ITEMS -	LUMP SUMS +	LUMP SUMS -
	YR BUILT: 1999 EFF YB: 1999 REMODELED: _____ RENTAL $ _____ SALE: DATE _____ $ _____				
	PHYS. COND: P F (A) G FUNC. UTIL: P F (A) G INSPECT. LEVEL: EXT ONLY (INTERIOR) (OWNER) TENANT OTHER				
	CLASS: 5 (SGL) MULTI: 2 3 4 STORIES: 1 1½ (2) 3 BSMT BASE FACTOR $				
FOUNDATION	(CONC) CONC BLOCK BRICK STONE FRAME SLAB PILINGS: WOOD / METAL				
EXTERIOR	(DBL) SGL BOX SIDING: T1-11 BEVEL (SHGL) SHAKE COMPOSITE METAL VERT B&B LOG STUCCO ASBESTOS RUSTIC CONC BLK BRICK: VENEER 4' 8' SOLID (STONE TRIM) OTHER _____				
ROOF	(GABLE) HIP FLAT SHED GAMBREL A-FRAME OTHER _____ PITCH: LOW (AVG) STEEP SHINGLES: CEDAR METAL 3-TAB COMP ARCH: LT MED HVY SHAKES: LT MED HVY (TILE: CONC) CLAY BUILT-UP ROLL BKD ENAMEL SLATE COPPER OTHER _____				
FIRST FLOOR	(DBL) SGL FIR PLY WD H.WD VINYL CONC (TILE) (CARPET) (LAMINATE) OTHER _____ RMS: (LIV) (DIN) (FAM) (KIT) (UTIL) HALL (DEN) ___ BD 1 BATH OTHER VAULTED FOYER				
PARTITIONS	(DRYWALL) PLASTER T&G PLYWD PANELING OTHER _____				
OTHER INTERIOR CONST.	CLASS: 5 BUILT-INS & CABINETS: ECON FAIR (AVG) GOOD HIGH _____ COUNTERTOPS: LAMINATE (TILE) GRANITE SOLID SURFACE OTHER _____ APPLIANCES: ELECT (GAS) BASIC SET DI- RANGE (OVEN: SGL (DBL) WARMING DRAWER COMMERCIAL (COOKTOP W/BLT-IN EXHST/GRILL) (MICRO) HD-FAN (DISH) (DISPOSAL) TRASH COMP BI-REFRIG WINE COOLER				
PLUMBING	CLASS: 5 TOTAL: 3 FULL BATHS ___ HALF BATHS 2 BATHTUB $ ___ / 4 LAVATORY $ ___ / 1 KITCHEN SINK $ ___ ___ + FBRGLS SURR $ ___ / 3 TOILET $ ___ / 1 BAR SINK $ ___ 2 + TILE SURR $ ___ / ___ GARDEN TUB $ ___ / 1 HOT WATER DISP $ ___ 1 + GLASS DOOR $ ___ / 1 JET TUB $ ___ / 1 LAUNDRY TUB $ ___ ___ STALL SHWR-FBGLS $ ___ / ___ ___ $ ___ / 1 WATER HEATER $ ___ 1 STALL SHWR-TILE $ ___ / ___ ___ $ ___ / ___ ___ $ ___				
HEATING	CLASS: 5 ELEC BSBD WALL UNITS CEILING (FA) (A/C) RADIANT:HYDRO / ELEC HEAT PUMP (GAS) ELEC OTHER _____ TOTAL AREA HEATED _____ SQFT x $ _____ /SQFT				
FIREPLACE	CLASS: 5 WD STOVE PELLET GAS STOVE HEAT SHIELD DIR VENT GAS FP MASONRY: SGL SEE-THRU BACKED (STCKD) PREFAB CHIMNEY: 1 STY (2 STY)				
~~BASEMENT~~	CLASS: ___ FULL DAYLIGHT UNFIN FIN WALLS: CONC BLK WALL CVR: PLS DRYWL WD PANEL FLOOR: CONC WOOD FLR CVR: CONC WOOD TILE CARPET LAMINATE RMS: FAM MECH STRG UTIL GARAGE DEN ___ BD ___ BATH HEAT: _____ SQFT x $ _____ /SQFT				
ATTIC OR UPPER STORIES	CLASS: 5 UNFIN (FIN COMP TO MAIN FLR) LOW CST FLOOR (DBL) SGL HDWD (TILE) VINYL LAM (CARPET) RMS: 3 BEDRM 2 BATH (HALL) UTIL DEN NOOK STRG ___ HEAT: _____ SQFT x $ _____ /SQFT				
ELECTRICAL	CLASS: 5 INTERCOM MUSIC SYS THEATER (SECURITY SYS) ELEVATOR (VAC SYS) WINE CELLAR 2 HVAC ZONE				
PORCH(S)	(WOOD) CONC ROOF: OPEN SIMPLE (ROOF EXTN) SIZE: _____ INCLUDED IN HSE SQ FT Y (N)				

REMARKS:

SUMMARY OF DWELLING COMPUTATION

TOTALS	+		
	-		

NET LUMP SUM ADJUSTMENT ..... $ _____

DWELLING _____ SQ FT x _____ R2 UNITS = _____ SQ FT x $ _____ /SQFT $ _____

TOTAL BASE COST ..... $ _____

COST INDEX 108 % x QUAL. ADJ _____ % = 108 % MODIFIER x BASE COST = $ _____

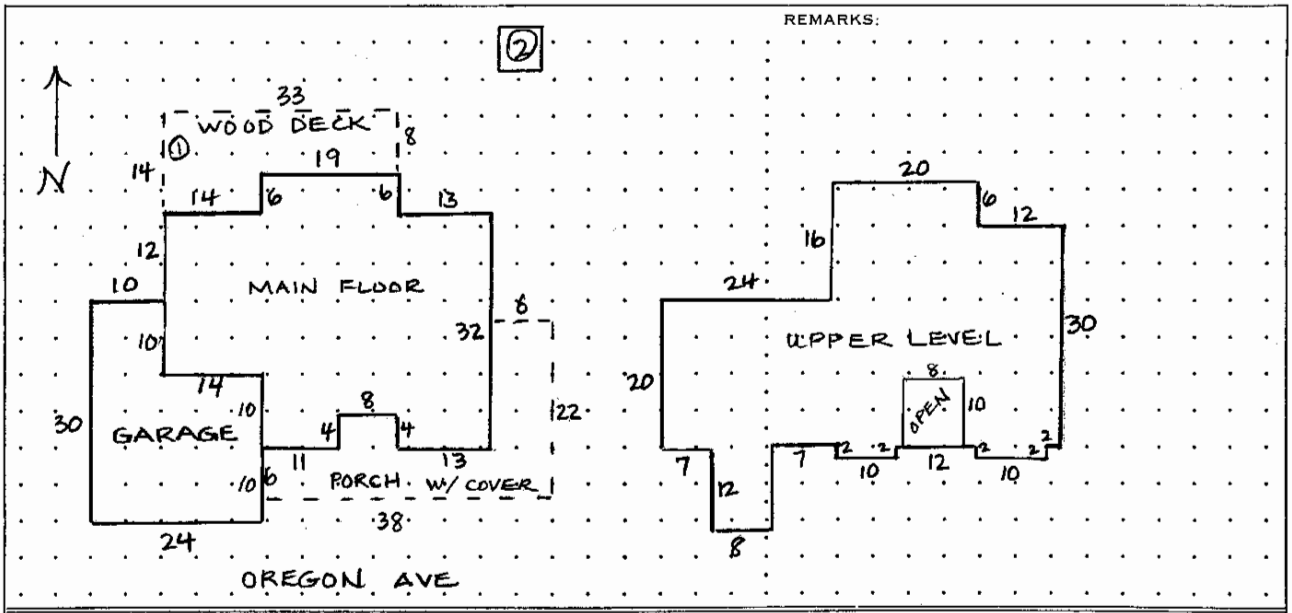
REPLACEMENT COST NEW ..... $ _____

DEPRECIATION: _____ % PHYS x _____ % FUNC = _____ % GOOD

DEPRECIATED REPLACEMENT COST (TRANSFER TO VALUE SUMMARY) $ _____

RESIDENTIAL APPRAISAL
SUBJECT #2 continued

BUILDING DIAGRAM AND OUTBUILDINGS



NO.	TYPE / USE	DESCRIPTION: FOUND	FLOOR	ROOF	WALLS	MISC.	DIMENSIONS	AREA S.F. BASE ADJ BASE	REPL. COST LUMP SUM TOTAL	QUAL. INDEX % MDF.	REPL. COST	DEP. % PHYS % USE % GOOD %	DEPRECIATED REPLACEMENT COST
	GARAGE CLASS 5 (ATT) DET BSMT YR BUILT 99	CONC	CONC	CONC	DBL	GARAGE	20 x 24						
				TILE	FIN	DR OPNR	10 x 10						
						= 2	x						
①	DECK		COMPOSITE				8 x 33						
			NO COVER				6 x 14						
			WOOD	RAILS-	PLAIN	47 L.F	x						
②	GARDEN SHED	WD	PLY	COMP	T1-11		12 x 12						
				GAB			x						
							x						
3							x						
							x						
							x						
4							x						
							x						
							x						
5							x						
							x						
							x						
6							x						
							x						
							x						
7							x						
							x						
							x						
8							x						
							x						
							x						

TOTAL DEPRECIATED REPLACEMENT COST—OUTBUILDINGS AND OTHER IMPROVEMENTS (TRANSFER TO VALUE SUMMARY) $

RESIDENTIAL APPRAISAL
SUBJECT #2 continued

PROPERTY CLASS _____ **LAND APPRAISAL** ACCOUNT NO. _____

PHOTO NO. _____ CODE NO. _____

RECORD OF APPRAISAL ORS 308.234		
SUBTOTAL "A"	$	75,000
INCREMENTS TO LAND "B"	$	
GROSS LAND VALUE "A" + "B"	$	
SITE ADJUSTMENTS _____%	$	75,000
TOTAL APPRAISED VALUE	$	75,000

APPR. BY _____ DATE _____

MARKET DATA
PURCHASE PRICE $_____
DATE
DEED _____ TYPE _____
CONTRACT
TRADE
RENT
LISTING

REMARKS: *Underground utilities with tree-lined streets*
Typical site value is $75,000

ZONING	
RESIDENTIAL R-1	✓
MULTI-FAMILY	
COMMERCIAL	
NEIGHBORHOOD COM'L	
LT. INDUSTRIAL	
JVY. INDUSTRIAL	
AGRICULTURAL	

AREA IMPROVEMENTS	
SIDEWALKS	✓
CURBS	✓
STREET	✓
WATER	✓
SEWERS	✓
ELECTRICITY	✓

SITE ADJUSTMENTS	%
ROAD TYPE D G (P)	
MI. TO ALL WTHR RD	
MI. TO MKT CENTER	
TOPOGRAPHY	
VIEW	

STANDARD DEPTH	Feet
STANDARD DEPTH	100
EFFECTIVE DEPTH	100

COMPUTATION

DIMENSIONS OR ACRES	LAND CLASS	BASIC UNIT VALUE	ADJUSTMENT FACTORS			ADJUSTED UNIT VALUE	TOTAL VALUE
90 x 100		75,000					75,000
.21 ac	← TOTAL ACRES		SUBTOTAL "A" (TRANSFER TO VALUE SUMMARY) →				75,000

_____ COMPUTER / DATE

_____ CHECKED / DATE

Lesson 5: Answers

5.1

Depreciation

5.2

100 percent good

5.3

75 percent good

Structures are evaluated based on a *percent good* determination.

5.4

New

The per square foot replacement tables are based on what it would cost to replace a structure, with the same utility, in new form. (RCN: Replacement Cost New)

5.5

Accrued depreciation

5.6

Obsolescence

5.7

The house with the sawdust furnace

The loss in value is due to the decrease in demand for obsolete sawdust furnaces.

5.8

Market value

Note: This concept is also known as using matched pairs. This simply means you compare one sale with a particular form of obsolescence to a sale that does not suffer from such obsolescence. The difference in the two sale prices will indicate the amount of depreciation or obsolescence.

5.9

20 years

5.10

10 years

5.11

Effective

The concept of effective age is important to understand because effective age is directly related to what the market will pay for a structure in its present condition. Effective age is sometimes measured in terms of percent good.

5.12

Replacement cost new

A developed percent good provides you with a suggested depreciation allowance for similar subject properties.

5.13

Sale 1: 80 percent

Sale 2: 80 percent

Sale 3: 80 percent

In many instances the spread would be much greater. In such a case, the appraiser must select the percent good based upon consideration of their opinion of the similarity of the properties to the subject.

5.14

Percent good

The percent good of a house is determined by comparison of comparable market sales to its replacement cost new. This is why it is sometimes referred to as the market related cost approach.

5.15

Cost approach

5.16

Less depreciation plus land value

In the Cost Approach to Value, you estimate the value of a property by figuring the replacement cost new of the building, then reduce that amount to account for accrued depreciation with the use of established percent good, then you add the land value to the depreciated replacement cost to give you an indicated market value.

RESIDENTIAL APPRAISAL

MAP _____ ACCT. NO. _____

SUBJECT #1

TAX LOT _____ CODE AREA _____

OVER / UNDER IMPROVEMENT _____ % EXTERNALITIES _____ %

Reason: _____ TOTAL ADJUSTMENT _____ %

RECORD OF LAST APPRAISAL ORS 308.234

APPR AB DATE – APPRAISED VALUE $ 236,900

APPR _____ DATE _____ APPRAISED VALUE $ _____

VALUE SUMMARY

DWELLING--DEPRECIATED REPLACEMENT	$ 196,113
GARAGE--DEPRECIATED REPLACEMENT COST	$ 38,826
OTHER IMPROVEMENTS	$ 1,959
TOTAL DEPRECIATED REPLACEMENT COST	$ 236,898

YR BUILT: 1996 EFF YB: 1996 REMODELED: _____ RENTAL $ _____ SALE: DATE _____ $ _____

PHYS. COND: P F (A) G FUNC. UTIL: P F (A) G INSPECT. LEVEL: EXT ONLY (INTERIOR) (OWNER) TENANT OTHER

CLASS: 5 (SGL) MULTI: 2 3 4 STORIES: (1) 1½ 2 3 BSMT BASE FACTOR $ 88.51

	SQ. FT. ITEMS +	SQ. FT. ITEMS -	LUMP SUMS +	LUMP SUMS -
FOUNDATION: (CONC) CONC BLOCK BRICK STONE FRAME SLAB PILINGS: WOOD / METAL				
EXTERIOR: (DBL) SGL BOX SIDING: T1-11 (BEVEL) SHGL SHAKE COMPOSITE METAL VERT B&B LOG STUCCO; ASBESTOS RUSTIC CONC BLK BRICK: VENEER 4' 8' SOLID (STONE TRIM) OTHER _____				
ROOF: (GABLE) HIP FLAT SHED GAMBREL A-FRAME OTHER _____ PITCH: LOW (AVG) STEEP; SHINGLES: CEDAR METAL 3-TAB COMP (ARCH: LT) MED HVY SHAKES: LT MED HVY; TILE: CONC / CLAY BUILT-UP ROLL BKD ENAMEL SLATE COPPER OTHER _____				
FIRST FLOOR: (DBL) SGL FIR PLY WD H.WD VINYL CONC (TILE) (CARPET) LAMINATE OTHER _____; RMS: (LIV) (DIN) (FAM) (KIT) (UTIL) (HALL) DEN 3 BD 2½ BATH OTHER _____				
PARTITIONS: (DRYWALL) PLASTER T&G PLYWD PANELING OTHER _____				
OTHER INTERIOR CONST.: CLASS: 5 BUILT-INS & CABINETS: ECON FAIR (AVG) GOOD HIGH _____; COUNTERTOPS: (LAMINATE) TILE GRANITE SOLID SURFACE OTHER _____; APPLIANCES: (ELECT) GAS (BASIC SET) DI- RANGE OVEN: SGL DBL WARMING DRAWER COMMERCIAL; COOKTOP W/BLT-IN EXHST/GRILL (MICRO) HD-FAN DISH DISPOSAL TRASH COMP BI-REFRIG WINE COOLER			$2,740	
PLUMBING: CLASS: 5 TOTAL: 2 FULL BATHS 1 HALF BATHS			$11,900	

1 BATHTUB	$ 900	4 LAVATORY	$ 2,000	1 KITCHEN SINK	$ 600
1 + FBRGLS SURR	$ 500	3 TOILET	$ 1,350	1 BAR SINK	$ 450
___ + TILE SURR	$ ___	1 GARDEN TUB	$ 2,500	___ HOT WATER DISP	$ ___
___ + GLASS DOOR	$ ___	___ JET TUB	$ ___	1 LAUNDRY TUB	$ 550
___ STALL SHWR-FBGLS	$ ___	___ ___	$ ___	1 WATER HEATER	$ 450
1 STALL SHWR-TILE	$ 2,600	___ ___	$ ___	___ ___	$ ___

HEATING: CLASS: 5 ELEC BSBD WALL UNITS CEILING FA A/C RADIANT:HYDRO / ELEC (HEAT PUMP); GAS / (ELEC) OTHER _____ TOTAL AREA HEATED 1936 SQFT x $ 2.90 /SQFT			$5,614		
FIREPLACE: CLASS: 5 WD STOVE PELLET GAS STOVE HEAT SHIELD DIR VENT GAS FP; MASONRY: SGL SEE-THRU (BACKED) STCKD PREFAB CHIMNEY: 1 STY 2 STY			$1,280		
BASEMENT: CLASS: ___ FULL DAYLIGHT UNFIN FIN WALLS: CONC BLK WALL CVR: PLS DRYWL WD PANEL; FLOOR: CONC WOOD FLR CVR: CONC WOOD TILE CARPET LAMINATE; RMS: FAM MECH STRG UTIL GARAGE DEN ___ BD ___ BATH HEAT: ___ SQFT x $ ___ /SQFT					
ATTIC OR UPPER STORIES: CLASS: ___ UNFIN FIN COMP TO MAIN FLR / LOW CST FLOOR: DBL SGL HDWD TILE VINYL LAM CARPET; RMS: ___ BEDRM ___ BATH HALL UTIL DEN NOOK STRG ___ HEAT: ___ SQFT x $ ___ /SQFT					
ELECTRICAL: CLASS: 5 INTERCOM MUSIC SYS THEATER SECURITY SYS ELEVATOR VAC SYS WINE CELLAR					
PORCH(S): WOOD (CONC) ROOF: OPEN SIMPLE (ROOF EXTN) SIZE: 6 X 12 INCLUDED IN HSE SQ FT Y (N)			$2,873		
TOTALS	+ 88.51		$30,407		
	-				

REMARKS:

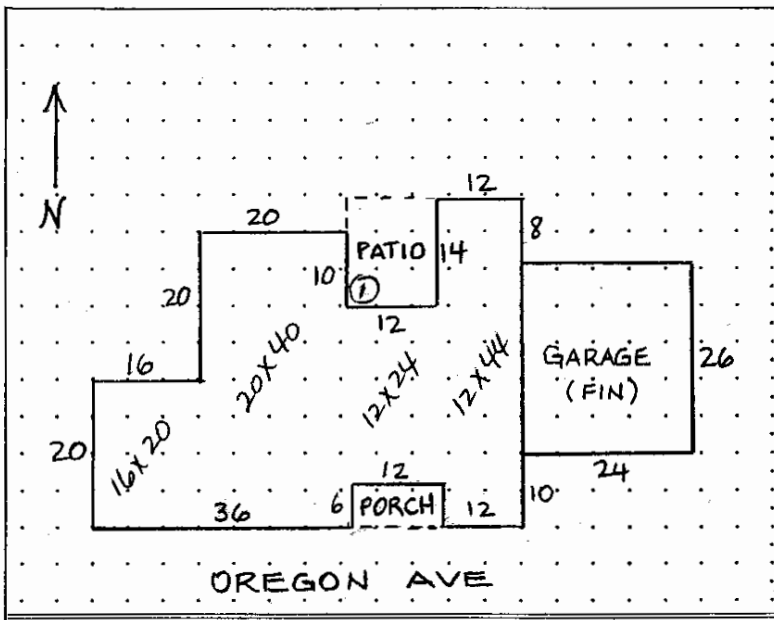
$236,900 Imp Value
75,000 Land Value
$311,900 Total

SUMMARY OF DWELLING COMPUTATION

NET LUMP SUM ADJUSTMENT	$ 30,407
DWELLING _____ SQ FT x _____ R2 UNITS = 1936 SQ FT x $ 88.51 /SQFT	$ 171,355
TOTAL BASE COST	$ 201,762
COST INDEX 108 % x QUAL. ADJ _____ % = 108 % MODIFIER x BASE COST =	$ 16,141
REPLACEMENT COST NEW	$ 217,903
DEPRECIATION: 90 % PHYS x _____ % FUNC = 90 % GOOD	
DEPRECIATED REPLACEMENT COST (TRANSFER TO VALUE SUMMARY)	$ 196,113

RESIDENTIAL APPRAISAL
SUBJECT #1 continued

BUILDING DIAGRAM AND OUTBUILDINGS



REMARKS:

MAIN AREA

16 x 20	=	320
20 x 40	=	800
12 x 24	=	288
12 x 44	=	528
		1936 ☐

NO.	TYPE / USE	DESCRIPTION: FOUND	FLOOR	ROOF	WALLS	MISC.	DIMENSIONS	AREA S.F. BASE ADJ BASE	REPL. COST LUMP SUM TOTAL	QUAL. INDEX % MDF.	REPL. COST	DEP. % PHYS % USE % GOOD %	DEPRECIATED REPLACEMENT COST
	GARAGE CLASS 5 (ATT) DET BSMT YR BUILT 96	CONC.	CONC.	ARCH.	DBL.	GARAGE	24x26	624 ☐	$39,044				
				COMP	FIN	DR. OPNR	x	$62.57		1.08	$43,140	90%	$38,826
				LT. WT.		= 2	x	$450 ea	$900				
1	PATIO	STAMPED	NO				12x14	168 ☐					
		CONCRETE	COVER				x	x $12.00	$2,016	1.08	$2,177	90%	$1,959
							x						
2							x						
							x						
							x						
3							x						
							x						
							x						
4							x						
							x						
							x						
5							x						
							x						
							x						
6							x						
							x						
							x						
7							x						
							x						
							x						
8							x						
							x						
							x						

TOTAL DEPRECIATED REPLACEMENT COST—OUTBUILDINGS AND OTHER IMPROVEMENTS (TRANSFER TO VALUE SUMMARY) $ 1,959

RESIDENTIAL APPRAISAL
SUBJECT #1 continued

PROPERTY CLASS _____ **LAND APPRAISAL** ACCOUNT NO. _____

PHOTO NO. _____ CODE NO. _____

RECORD OF APPRAISAL ORS 308.234		
SUBTOTAL "A"	$	75,000
INCREMENTS TO LAND "B"	$	
GROSS LAND VALUE "A" + "B"	$	
SITE ADJUSTMENTS _____%	$	75,000
TOTAL APPRAISED VALUE	$	75,000

APPR. BY _____ DATE _____

MARKET DATA

PURCHASE PRICE $_____
DATE
DEED _____ TYPE _____
CONTRACT
TRADE
RENT
LISTING

REMARKS:
Underground utilities with tree-lined streets
Typical site value is $75,000

ZONING	
RESIDENTIAL R-1	✓
MULTI-FAMILY	
COMMERCIAL	
NEIGHBORHOOD COM'L	
LT. INDUSTRIAL	
JVY. INDUSTRIAL	
AGRICULTURAL	

AREA IMPROVEMENTS	
SIDEWALKS	✓
CURBS	✓
STREET	✓
WATER	✓
SEWERS	✓
ELECTRICITY	✓

SITE ADJUSTMENTS	%
ROAD TYPE D G (P)	
MI. TO ALL WTHR RD _____	
MI. TO MKT CENTER _____	
TOPOGRAPHY	
VIEW	

STANDARD DEPTH	Feet
STANDARD DEPTH	100
EFFECTIVE DEPTH	100

COMPUTATION

DIMENSIONS OR ACRES	LAND CLASS	BASIC UNIT VALUE	ADJUSTMENT FACTORS			ADJUSTED UNIT VALUE	TOTAL VALUE
90 x 100		75,000					75,000
.21 ac	← TOTAL ACRES		SUBTOTAL "A" (TRANSFER TO VALUE SUMMARY) →				75,000

_____ COMPUTER / DATE

_____ CHECKED / DATE

RESIDENTIAL APPRAISAL

MAP _____ ACCT. NO. _____

SUBJECT #2

TAX LOT _____ CODE AREA _____

OVER / UNDER IMPROVEMENT _____ % EXTERNALITIES _____ %

Reason: _____ TOTAL ADJUSTMENT _____ %

RECORD OF LAST APPRAISAL ORS 308.234

APPR AB DATE - APPRAISED VALUE $ 331,680

APPR _____ DATE _____ APPRAISED VALUE $ _____

VALUE SUMMARY

DWELLING—DEPRECIATED REPLACEMENT	$ 285,717
GARAGE—DEPRECIATED REPLACEMENT COST	$ 37,085
OTHER IMPROVEMENTS	$ 8,880
TOTAL DEPRECIATED REPLACEMENT COST	$ 331,682

YR BUILT: 1999 EFF YB: 1999 REMODELED: _____ RENTAL $ _____ SALE: DATE _____ $ _____

		SQ. FT. ITEMS +	SQ. FT. ITEMS -	LUMP SUMS +	LUMP SUMS -
PHYS. COND: P F (A) G FUNC. UTIL: P F (A) G	INSPECT. LEVEL: EXT ONLY (INTERIOR) (OWNER) TENANT OTHER				
CLASS: 5 (SGL) MULTI: 2 3 4	STORIES: 1 1½ (2) 3 BSMT — BASE FACTOR $	98.96			
FOUNDATION	(CONC) CONC BLOCK BRICK STONE FRAME SLAB PILINGS: WOOD / METAL				
EXTERIOR	(DBL) SGL BOX SIDING: T1-11 BEVEL (SHGL) SHAKE COMPOSITE METAL VERT B&B LOG STUCCO ASBESTOS RUSTIC CONC BLK BRICK: VENEER 4' 8' SOLID (STONE TRIM) OTHER _____				
ROOF	(GABLE) HIP FLAT SHED GAMBREL A-FRAME OTHER _____ PITCH: LOW (AVG) STEEP SHINGLES: CEDAR METAL 3-TAB COMP ARCH: LT MED HVY SHAKES: LT MED HVY (TILE: CONC) CLAY BUILT-UP ROLL BKD ENAMEL SLATE COPPER OTHER _____	2.50			
FIRST FLOOR	(DBL) SGL FIR PLY WD H.WD VINYL CONC (TILE) (CARPET) (LAMINATE) OTHER _____ RMS: (LIV) (DIN) (FAM) (KIT) (UTIL) HALL (DEN) ___ BD 1 BATH OTHER VAULTED FOYER				
PARTITIONS	(DRYWALL) PLASTER T&G PLYWD PANELING OTHER _____				
OTHER INTERIOR CONST.	CLASS: 5 BUILT-INS & CABINETS: ECON FAIR (AVG) GOOD HIGH _____ COUNTERTOPS: LAMINATE (TILE) GRANITE SOLID SURFACE OTHER _____ APPLIANCES: ELECT (GAS) BASIC SET DI- RANGE (OVEN) SGL (DBL) WARMING DRAWER COMMERCIAL (COOKTOP) W/BLT-IN EXHST/GRILL (MICRO) HD-FAN (DISH) (DISPOSAL) TRASH COMP BI-REFRIG WINE COOLER			$4,020	
PLUMBING	CLASS: 5 TOTAL: 3 FULL BATHS ___ HALF BATHS 2 BATHTUB $ _____ / 4 LAVATORY $ _____ / 1 KITCHEN SINK $ _____ ___ + FBRGLS SURR $ _____ / 3 TOILET $ _____ / 1 BAR SINK $ _____ 2 + TILE SURR $ _____ / ___ GARDEN TUB $ _____ / 1 HOT WATER DISP $ _____ 1 + GLASS DOOR $ _____ / 1 JET TUB $ _____ / 1 LAUNDRY TUB $ _____ ___ STALL SHWR-FBGLS $ _____ / ___ _____ $ _____ / 1 WATER HEATER $ _____ 1 STALL SHWR-TILE $ _____ / ___ _____ $ _____ / ___ _____ $ _____			$16,000	
HEATING	CLASS: 5 ELEC BSBD WALL UNITS CEILING (FA) (A/C) RADIANT:HYDRO / ELEC HEAT PUMP (GAS) ELEC OTHER _____ TOTAL AREA HEATED 2222 SQFT x $ 2.50 /SQFT			$5,555	
FIREPLACE	CLASS: 5 WD STOVE PELLET GAS STOVE HEAT SHIELD DIR VENT GAS FP MASONRY: SGL SEE-THRU BACKED (STCKD) PREFAB CHIMNEY: 1 STY (2 STY)			$7,900 $1,120	
~~BASEMENT~~	CLASS: ___ FULL DAYLIGHT UNFIN FIN WALLS: CONC BLK WALL CVR: PLS DRYWL WD PANEL FLOOR: CONC WOOD FLR CVR: CONC WOOD TILE CARPET LAMINATE RMS: FAM MECH STRG UTIL GARAGE DEN ___ BD ___ BATH HEAT: _____ SQFT x $ _____ /SQFT				
ATTIC OR UPPER STORIES	CLASS: 5 UNFIN (FIN COMP TO MAIN FLR) LOW CST FLOOR (DBL) SGL HDWD (TILE) VINYL LAM (CARPET) RMS: 3 BEDRM 2 BATH (HALL) UTIL DEN NOOK STRG ___ HEAT: 1616 SQFT x $ _____ /SQFT			$97,154	
ELECTRICAL	CLASS: 5 INTERCOM MUSIC SYS THEATER (SECURITY SYS) ELEVATOR (VAC SYS) WINE CELLAR			$3,020	
PORCH(S)	(WOOD) CONC ROOF: OPEN SIMPLE (ROOF EXTN) SIZE (6x38)+(6x16) = 324 SF x $48.50 (16 ZONE) INCLUDED IN HSE SQ FT Y (N)			$15,714	
	TOTALS +	101.46		$150,483	
	-				

REMARKS:

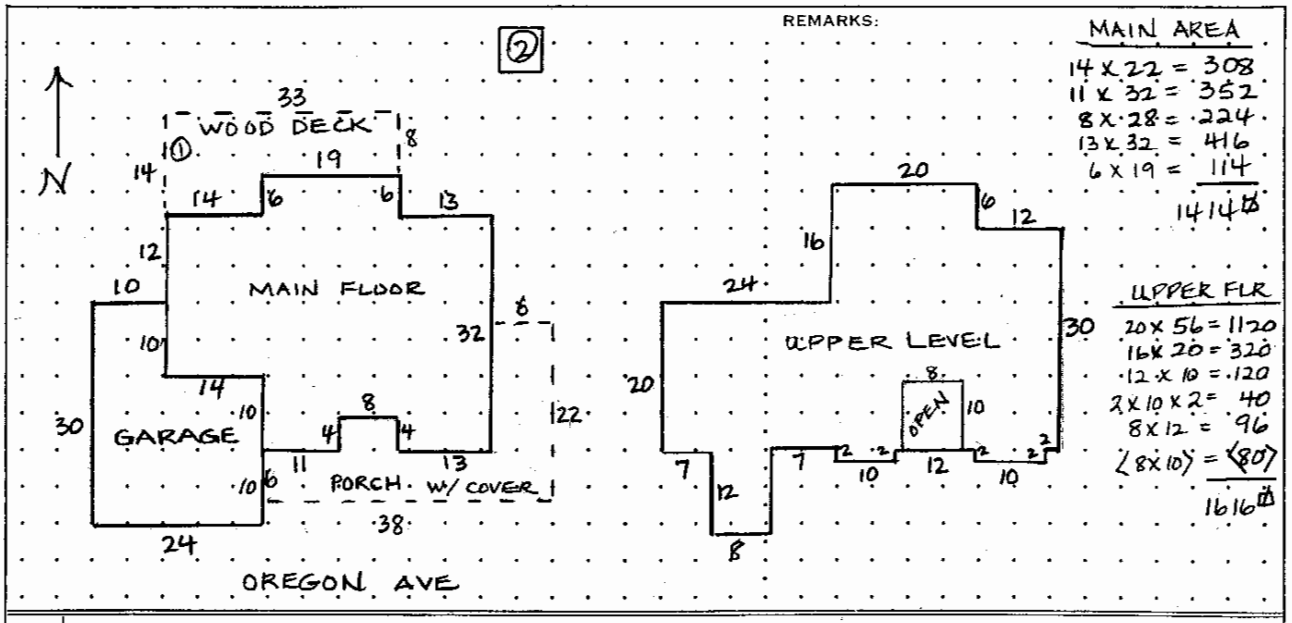
$331,680 Imp Value
75,000 Land Value
$ 406,680 Total

SUMMARY OF DWELLING COMPUTATION

NET LUMP SUM ADJUSTMENT	$ 150,483
DWELLING _____ SQ FT x _____ R2 UNITS = 1414 SQ FT x $ 101.46 /SQFT	$ 143,464
TOTAL BASE COST	$ 293,947
COST INDEX 108 % x QUAL. ADJ _____ % = 108 % MODIFIER x BASE COST =	$ 23,516
REPLACEMENT COST NEW	$ 317,463
DEPRECIATION: 90 % PHYS x _____ % FUNC = 90 % GOOD	
DEPRECIATED REPLACEMENT COST (TRANSFER TO VALUE SUMMARY)	$ 285,717

RESIDENTIAL APPRAISAL
SUBJECT #2 continued

BUILDING DIAGRAM AND OUTBUILDINGS



NO. / TYPE / USE	DESCRIPTION: FOUND	FLOOR	ROOF	WALLS	MISC.	DIMENSIONS	AREA S.F. BASE ADJ BASE	REPL. COST LUMP SUM TOTAL	QUAL. INDEX % MDF.	REPL. COST	DEP. % PHYS % USE % GOOD %	DEPRECIATED REPLACEMENT COST
GARAGE CLASS 5 (ATT) DET BSMT YR BUILT 99	CONC.	CONC.	CONC. TILE	DBL. FIN	GARAGE DR. OPNR = 2	20 x 24	580 ft²					
						10 x 10	$64.23	$37,253	1.08	$41,205	90%	$37,085
						x	$450 ea	$900				
① DECK		COMPOSITE				8 x 33	348 ft²					
		NO COVER				6 x 14	$18.00	$6,264	1.08	$7,455	90%	$6,710
		WOOD	RAILS-	PLAIN	47 L.F.	x	$13.60	$639				
② GARDEN SHED	WD	PLY	COMP	T1-11		12 x 12	144 ft²					
			GAB			x	$15.50	$2,232	1.08	$2,411	90%	$2,170
						x						
3						x						
						x						
						x						
4						x						
						x						
						x						
5						x						
						x						
						x						
6						x						
						x						
						x						
7						x						
						x						
						x						
8						x						
						x						
						x						

TOTAL DEPRECIATED REPLACEMENT COST—OUTBUILDINGS AND OTHER IMPROVEMENTS (TRANSFER TO VALUE SUMMARY) $ 8,880

RESIDENTIAL APPRAISAL
SUBJECT #2 continued

PROPERTY CLASS _____ **LAND APPRAISAL** ACCOUNT NO. _____

PHOTO NO. _____ CODE NO. _____

RECORD OF APPRAISAL ORS 308.234		
SUBTOTAL "A"	$	75,000
INCREMENTS TO LAND "B"	$	
GROSS LAND VALUE "A" + "B"	$	
SITE ADJUSTMENTS _____%	$	75,000
TOTAL APPRAISED VALUE	$	75,000

APPR. BY _____ DATE _____

MARKET DATA
PURCHASE PRICE $_____
DATE
DEED _____ TYPE _____
CONTRACT
TRADE
RENT
LISTING

REMARKS:
Underground utilities with tree-lined streets
Typical site value is $75,000

ZONING	
RESIDENTIAL R-1	✓
MULTI-FAMILY	
COMMERCIAL	
NEIGHBORHOOD COM'L	
LT. INDUSTRIAL	
JVY. INDUSTRIAL	
AGRICULTURAL	
AREA IMPROVEMENTS	
SIDEWALKS	✓
CURBS	✓
STREET	✓
WATER	✓
SEWERS	✓
ELECTRICITY	✓
SITE ADJUSTMENTS	**%**
ROAD TYPE D G (P)	
MI. TO ALL WTHR RD	
MI. TO MKT CENTER	
TOPOGRAPHY	
VIEW	
STANDARD DEPTH	**Feet**
STANDARD DEPTH	100
EFFECTIVE DEPTH	100

COMPUTATION

DIMENSIONS OR ACRES	LAND CLASS	BASIC UNIT VALUE	ADJUSTMENT FACTORS			ADJUSTED UNIT VALUE	TOTAL VALUE
90 x 100		75,000					75,000
.21 ac	← TOTAL ACRES		SUBTOTAL "A" (TRANSFER TO VALUE SUMMARY) →				75,000

_____ COMPUTER / DATE

_____ CHECKED / DATE

The Cost Approach to Value

Cost Factors Supplement

General and Special Instructions
Quality Classes 3, 5, and 7
A portion of Interior Components, and
Exterior Components Assembled Costs

Revised by Property Tax Division
Oregon Department of Revenue
June 2007

Cost estimating process

Section 100

General Instructions

The cost approach

The cost approach is one of several methods used to estimate value. This method assumes an informed purchaser would pay no more for a building than the cost of replacing it.

One advantage of the cost approach is that it can be applied to most residential properties. Also, cost data can be adjusted to reflect current market trends. This makes the cost approach a useful tool for mass appraising. This manual will help in applying the cost approach quickly and accurately.

Cost estimating methods

Base cost method

The base cost method estimates replacement cost—the cost to build a similar structure using currently accepted materials and construction methods. The replacement structure must have similar construction quality, usable space, and other significant features. This method is fast and simple. Instructions for the base cost method begin on page 5.

Composition of costs

Cost factors in this manual are developed from actual market data. Besides direct costs such as labor, materials, and contractor's profit and overhead, cost factors include indirect costs necessary for a finished product such as:

- Plans and specifications
- Building permits
- Advertising
- Sales commissions
- Temporary facilities
- Insurance coverage
- Construction financing
- Developer's fees

Include the indirect costs typical for your market area when comparing cost factors in this manual to local building costs.

Base location

Cost factors in this manual are based on market data from the Portland metropolitan area. So, the base location is listed as: PORTLAND, OREGON.

Issue date

The issue date for different parts of this manual may vary due to revisions made after the publication date. Check the bottom inside corner of each page to ensure you have the latest revisions.

General Instructions (cont.)

Local cost modifiers

Because costs are constantly changing, local cost modifiers (LCM) are used to adjust cost factors for localities and appraisal dates. A market area LCM is a vital part of any cost estimate.

To develop a LCM, follow these steps:

1. Select a representative sample of recent new home sales from the local market area. These should be time adjusted, typical of the current market, and not include any abnormal discounts, unusual financing, or other non-typical influences.
2. Determine the sales price of the improvements. The total sales price, less the estimated land value and on-site development (OSD) costs, equals the sales price of the improvements.
3. Develop a cost estimate for the improvements of each sale using the cost factors in this manual.
4. Divide the total improvements sale prices by the total cost estimates in this manual. The result is the LCM.

Example

Sale #	Time adjusted sales price	Estimated land value	Adjusted sales price of improvements	Cost factor estimate
1	$ 147,500	$ 65,000	$ 82,500	$ 78,370
2	142,950	62,500	80,450	83,660
3	163,900	69,450	94,450	88,780
4	251,850	105,000	146,850	149,670
5	278,500	115,250	163,250	156,720
6	269,950	110,500	159,450	155,200
TOTALS	$1,254,650	$527,700	$726,950	$712,400

$$\frac{\$726{,}950 \text{ (sales price of improvements)}}{\$712{,}400 \text{ (cost factor estimates)}} = 1.02 \text{ Local Cost Modifier (LCM)}$$

Develop a LCM for each residential building type and class in this manual. For example, a LCM for conventional single family houses may not apply to multifamily dwellings.

Compare the local construction material and labor costs to the cost data in this manual. For more information on using this approach, contact the nearest DOR Regional Field Office.

For more information on developing LCMs, refer to *Appraisal Methods for Real Property* (150-303-415 Rev.7-03). To order copies write: Oregon Department of Revenue, Special Services, 955 Center St. NE, Salem, OR 97301, or call (503) 945-8636.

General Instructions (cont.)

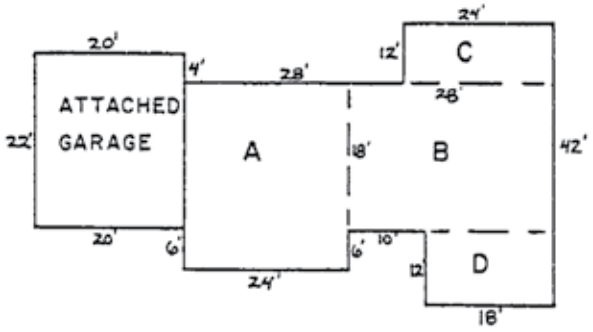
Building inspection

Inspection of the appraisal subject must be objective and comprehensive. Observe and note elements of quality in the building's materials and workmanship. List the building components and construction features on the appropriate appraisal form. During the inspection, note:

1. Building components such as foundation, exterior wall, roof, floors, and partitions.
2. Equipment and fixtures such as built-in appliances, lighting, plumbing, and heating.
3. Other improvements such as garages, driveways, and fences.

Cost factors in this manual are based on total floor area. Measure the exterior of the building, including stairways and entryways, to determine the square foot floor area. Include basement or second floor measurements plus stairways to determine the square foot floor area. Round measurements to the nearest whole foot. Draw a diagram of the buildings' exterior walls with measurements on the appraisal form.

Example



A	24' x 24'	=	576 #
B	18' x 28'	=	504 #
C	12' x 24'	=	288 #
D	12' x 18'	=	216 #
	TOTAL		1584 #

Before leaving the property, check the building measurements to make sure they balance. The total front measurements should equal the total back measurements; side measurements should also be equal.

Uniformity and equity

Uniformity and equity are important in mass appraising. Appraisers should be consistent in selecting appropriate building class and adjustment factors. Inconsistency produces an unacceptable range of values for buildings that should be valued similarly.

Establish reference buildings, or "benchmarks," for uniform appraisal. Benchmarks give appraisal staff standards and guidelines for estimating cost on similar structures. Procedures for setting up benchmarks is in *Appraisal Methods for Real Property,* published by the Department of Revenue. Benchmarks ensure uniform cost estimates for residential buildings.

Base costs

Section 200

Instructions

Base cost method

This section explains how to estimate replacement costs of typical residential buildings, and get reliable cost estimates with minimum building notations and calculations.

Analyze construction components and features before segregating the subject residence into three basic categories—"group," "type," and "class."

"Group"

"Group" is an overall category for buildings based on general use characteristics. Group categories in this section are single family and multifamily residential structures.

"Type"

This is a subdivision of the "group" category and is based on design characteristics. For example, the type categories used in the single family residential group are conventional and manufactured structures, which are now in a separate guide (150-303-419-1 Rev.5-04). To order copies of *Manufactured Structures 2004* write: Oregon Department of Revenue, Special Services, 955 Center St. NE, Salem, OR 97301, or call (503) 945-8636.

"Class"

"Class" categories describe quality variations within each type. Each class is related directly to the quality of construction described in the class features, class illustrations, and base specifications.

Class features are brief narratives to be used as a general guide for class selection.

Class illustrations show examples of quality features in each class. The photographs illustrate the range of structural designs and architectural styles. However, the buildings are alike in overall quality and functional utility, so replacement costs are similar. Emphasis is on construction features and livability according to market standards.

Base specifications describe the building components of a replacement structure typical to each class. This helps place the subject building into the proper class. The main consideration in selecting a class most like the building should be the difference between the base specification and locally developed classification benchmark books.

Base factors

Base factors are the square foot costs for each building class. Base factors contain only the costs of base specification components. If an item or component isn't in the base specifications, it isn't in the base factors either.

Instructions (cont.)

Adjustment factors

A table of adjustment factors is included to modify the base factor according to the features of the appraisal subject. Keep in mind that the adjustment factor may represent either the full cost of the item or just the difference between the base specification component and a replacement for that component.

Plus or minus signs (+ or -) indicate an increase or decrease in the adjustment factors. Some adjustment factors may be applied to the base factor if they're listed in the same unit of measure and apply to the same area. Other adjustments are applied to the overall building cost in a lump sum.

If the required adjustment factor isn't listed, refer to the Component Costs, Section 400, for the appropriate cost information, or develop local area factors instead.

Accessory improvements

For cost factors on garden sheds and other yard and site improvements, refer to the Accessory Improvements section 300, on page 111.

Single Family Residential

Conventional

Special Instructions

This section contains classification and cost data for estimating the replacement cost of a conventional single-family home. The conventional house is sometimes referred to as "site-built" because of the on-site construction methods used.

Classification

There are eight quality classes (1–8) for the conventional house. Each class is represented by a set of base specifications, class features, class illustrations, square foot base factors, and adjustment factors for common structural variations.

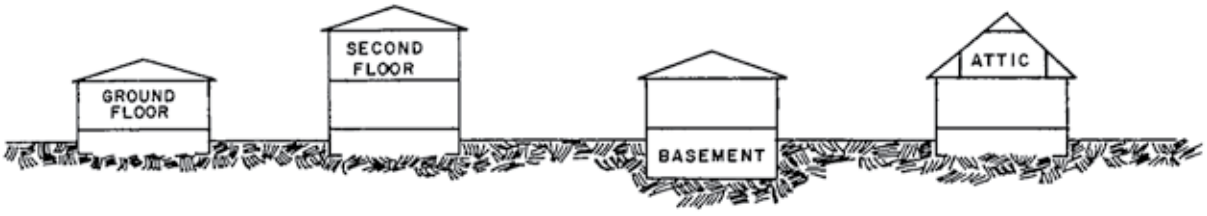
To determine the class for the subject house, compare construction features to the base specification schedules in this section. This will help determine which base specification schedule best describes the overall construction features of the house being appraised.

It's vital to compare the base specifications to the construction features of the house being appraised. Improper classification may impact the replacement cost estimate more than any subsequent cost adjustment. An example of this classification process is shown in *Appraisal Methods for Real Property.* Use the class features and class illustrations only as a general guide in classifying a residence. It's helpful to develop a class benchmark manual illustrating class 1 through class 8 residences in your county. This manual should be put together by knowledgeable appraiser(s), and reviewed by both a supervisor and a DOR regional representative. This is a great classification resource to help appraisers maintain uniform classification from year to year.

Base factors

The base factors tables list square foot costs for one story, second floor, basement, and attic floor levels, as illustrated below.

Diagram



Special Instructions (cont.)

Use these steps to select the base factor for the residence being appraised:

1. Select the applicable group, type and class.
2. Compute the total area of each floor level.
3. Using factor tables for the residence's group, type, and class, select the cost factor listed for the area of each floor level.

Example: The appraisal subject is a class 5, conventional, single family residence. The ground floor has 1,270 square feet. The second floor has 1,310 square feet. The square foot cost factors are in the table to the right. The one story cost is $83.37 per square foot, and the second floor cost is $62.34 per square foot.

Each cost factor is applied to the total square footage of its respective floor level. Compute the costs for each floor level separately, and add the costs together in a lump sum.

Because the one story and second floor factors are given in 10 square foot increments, no interpolation is necessary. Simply select the factor for the square footage nearest the subject's floor area.

Conventional

Class—5

Cost Factor Tables

One Story Base Factors
(Floor Area — Cost Per Sq. Ft.)

	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700
0	96.68	92.68	89.49	86.87	84.69	82.84	81.26	79.89	78.69	77.63
10	96.24	92.33	89.20	86.63	84.49	82.67	81.12	79.76	78.58	77.53
20	95.80	91.99	88.92	86.40	84.30	82.51	80.97	79.64	78.47	77.44
30	95.38	91.65	88.65	86.17	84.10	82.34	80.83	79.51	78.36	77.34
40	94.97	91.32	88.38	85.95	83.91	82.18	80.69	79.39	78.25	77.24
50	94.57	91.00	88.12	85.73	83.73	82.02	80.55	79.27	78.15	77.15
60	94.17	90.69	87.86	85.52	83.55	81.87	80.42	79.15	78.04	77.06
70	93.79	90.38	87.60	85.30	83.37	81.71	80.28	79.04	77.94	76.96
80	93.41	90.07	87.35	85.09	83.19	81.56	80.15	78.92	77.83	76.87
90	93.04	89.78	87.11	84.89	83.01	81.41	80.02	78.80	77.73	76.78

Second Floor Factors
(Floor Area — Cost Per Sq. Ft.)

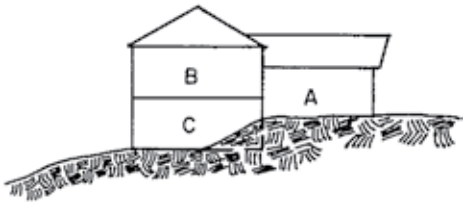
	400	500	600	700	800	900	1,000	1,100	1,200	1,300
0	88.74	81.14	76.07	72.45	69.74	67.62	65.93	64.55	63.40	62.43
10	87.81	80.54	75.65	72.14	69.50	67.44	65.78	64.43	63.30	62.34
20	86.93	79.97	75.25	71.85	69.27	67.26	65.64	64.31	63.19	62.25
30	86.09	79.42	74.86	71.56	69.05	67.08	65.49	64.18	63.09	62.16
40	85.28	78.89	74.49	71.28	68.83	66.90	65.35	64.07	62.99	62.08
50	84.52	78.37	74.12	71.00	68.62	66.73	65.21	63.95	62.89	61.99
60	83.78	77.88	73.77	70.74	68.41	66.57	65.07	63.84	62.80	61.91
70	83.08	77.40	73.42	70.48	68.21	66.40	64.94	63.72	62.70	61.83
80	82.41	76.94	73.09	70.22	68.01	66.24	64.81	63.61	62.61	61.75
90	81.76	76.50	72.76	69.98	67.81	66.09	64.68	63.51	62.52	61.67

Determining floor levels

Examine the use and construction characteristics of each floor level to determine:

1. The total square footage, and
2. The proper cost factor to apply.

Special Instructions (cont.)



A floor level that is characteristic of a ground floor should be considered as such. This also applies to the second floor, basement, and attic floor levels. For example, the split level house shown below has three insert schematic floor levels. Level A is clearly a ground floor level. However, levels B and C require some judgment to determine which is the ground floor level. If level C has characteristics of a basement, then level B should be considered the ground floor level. But if level C is more like a ground floor than a basement, level B should be considered a second floor level. Level C cannot be considered as basement if level B is considered second floor. Either level B or level C must be considered the ground floor level and added to level A for the total ground floor area.

Partially finished basements or attics

For a partially finished basement or attic, compute the floor level costs from the column of the total floor area. For example, a class 5 basement of 1,200 square feet, of which 800 square feet is finished per class specifications, is figured as follows:

1,200 s/f @ $ 44.55	=	$ 53,460		400 s/f @ $ 44.55	=	$ 17,820
800 s/f @ $ 30.27	=	$ 24,220	**or**	800 s/f @ $ 74.82	=	59,860
($74.82 – $44.55)		$77,680				$ 77,680

Adjustment factors

Adjustment factors for each class are included in this manual. The quality of items and components in the adjustment factors are typical for their class. If the quality of an item is better or poorer than what is typically found in the overall class of the appraisal subject, use an adjustment factor from a better or poorer class for that item. For example, the fireplace in a class 5 house is of a quality typically found in class 6 homes. An adjustment factor from the class 6 schedule can be used to estimate the cost of the fireplace.

Apply the heating-cooling adjustment factors to the total floor area that is heated and/or cooled. The square foot area of all floor levels must be included when using the heating-cooling factor. Sometimes the second floor, basement, and attic floor levels will share the main duct with the first floor. In that case, use one-half of the area of the floor levels to select the heating-cooling factor. For example, the total area heated in a class 5 house with a one-story area of 1,500 square feet and a basement area of 1,200 square feet is determined as follows:

One-story area	1,500 square feet
Basement (1,200 s/f ÷ 2)	600 square feet
Total area heated	2,100 square feet

Plumbing costs for rough in are handled separately from fixture costs. Costs for rough-in plumbing installation are included in the base cost factors for each building class.

Special Instructions (cont.)

Plumbing fixture costs are included in the adjustment factors for each building class. Fixtures must be inventoried by number and quality, and their costs determined using the appropriate adjustment factor. The quality of a fixture can be determined to be either better or poorer than what is typically found in the class of the appraisal subject. In this case, use an adjustment factor from the appropriate better or poorer class for each fixture. If a fixture is unusual and not included in the adjustment factor schedules, compare prices to similar items in your local market area.

Garages and carports

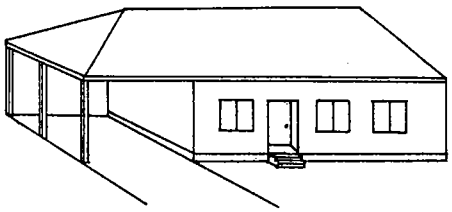
Garage and carport specifications, base factors, and adjustment factors are included in cost data for conventional class 2, 3, 4, 5, and 6 dwellings. Overall construction quality for residences also applies to garages and carports in the same class. Compare the construction of the garage or carport to the residence to ensure it is of the same construction quality. If the quality is different, adjust the class for the garage or carport accordingly.

Attached carports are separated into two categories, "flat or shed" and "same as house":

"Flat or shed" carports have a light roof frame with a built-up, corrugated metal or fiberglass cover. The roof usually has a flat or low pitch shed design.

"Same as house" carports have a roof structure that is the same as the house roof.

Flat or Shed



Same as House

Example cost estimate

Here is an example using the steps to compute a cost estimate. The subject is a class 5 house with a one-story area of 2,400 square feet. It has a medium weight architectural composition roof, drop-in range, hood fan, dishwasher, microwave, and garbage disposal. The plumbing includes two and one-half baths. The house has forced-air heating and a single fireplace with a ceiling high brick face, raised hearth, and an outside bricked chimney. Under the house is an 800 square foot basement of which 400 square feet is finished as per the class specifications. An unfinished garage with 500 square feet is attached to the house. Yard improvements include a 4-inch thick concrete driveway of 820 square feet and a concrete slab patio of 150 square feet.

Example

			Sq.Ft.	Lump Sum
Class 5 one-story factor @ 2,400 s/f			$83.18	
Adjustment factor: roof, medium weight architectural composition			.15	
			$83.33	
One story: 2400 s/f @ $83.33=				$199,992
Additional adjustment factors				
Appliances:				
Drop-in range	$ 900			
Hood-fan	410			
Dishwasher	720			
Microwave, built-in	520			
Garbage disposer	190	+		$ 2,740
Plumbing:				
Lavatories, 4 @ $ 500 ea.	$ 2,000			
Toilets, 3 @ $ 450	1,350			
Jet tub	3,900			
Fiberglass stall shower with door	1,600			
Fiberglass tub with shower over	1,400			
Kitchen sink, enameled steel, double	600			
Laundry tub, fiberglass, single	550			
Water heater	450	+		11,850
Heating: forced air				
Area heated: one-story	2,400 s/f			
finished bsmt.	400			
	2,800 s/f @ $1.70 =	+		4,760
Masonry fireplace $ 4,140+ $ 840 for outside brick chimney =		+		4,980
Basement: 800 square feet total				
400 s/f finished @ $ 81.93 =	$ 32,772			
400 s/f unfinished @ $ 51.01 =	20,404	+		53,176
Total house replacement costs				**$ 277,498**
Garage: attached 500 s/f unfinished factor			$ 63.53	
Adjustment factor; roof, medium weight architectural composition		+	.15	
			$ 63.68	
Total garage replacement cost 500 s/f @ $ 63.68 =				**31,840**
Yard improvements:				
Driveway (concrete) 820 s/f @ $ 3.25 =	$ 2,665			
Patio (concrete) 150 s/f @ $ 3.25 =	487			
Total Yard Improvements				**3,152**
LCM: 100%				
Total replacement cost (house, garage, and yard improvements)				**$ 312,490**

Conventional

Class 3

Class features

Houses in this class are generally built to meet government financing program specifications. Emphasis is on functional utility rather than styling. These homes just meet the current minimum building code.

A simple rectangular shape is most common. Exterior dimensions are usually in multiples of four feet to minimize building material waste. There is little or no exterior ornamentation. Front entries typically open directly into the living area. Interior features are plain and economical. Bathrooms feature economy-grade fixtures. Appliances may or may not be built in and are the most affordable on the market. The overall concept is to provide housing for the economy market.

Class Illustrations












Class 3

Interior Features











Conventional

Class 3 (cont.)

Item	Base Specifications
Foundation	Crawl space excavation; spread footing; continuous concrete or masonry perimeter wall; interior piers; vent openings; access opening; backfill and grading.
Exterior Wall	Stud frame construction; insulation; economy-grade painted single siding; economy-grade exterior doors and minimal windows; may have some trim, plain features.
Roof	Gable, hip, or comparable design, typically with open soffits; wood frame construction; ceiling joists; economy-grade solid sheathing; light weight 3-tab composition shingle cover; ceiling insulation; gutters and downspouts.
Floor	Wood frame construction with underpinning and underlayment, or concrete slab; economy-grade carpet and padding, and resilient cover in appropriate areas.
Partitions	Wood frame construction; economy-grade plaster or drywall with painted surfaces; similar material for ceiling cover and interior cover of exterior wall; economy-grade hollow core doors, hardware, and trim.
Interior Components	Quantity of cabinetry proportionate to overall house size; cabinets of economy paint grade material or simulated veneer finish; economy-grade plastic or linoleum countertop and backsplash; minimal shelving in wardrobe and linen closets; economy-grade hardware; narrow width stairway of straight design with softwood rail, and economy-grade carpet or softwood tread cover.
Electrical	Entry service; multi-circuit panel; non-metallic sheathed cable wiring; minimum number of convenience outlets; economy-grade light fixtures; range and dryer outlets.
Plumbing	Rough-in plumbing costs only.
Heating-Cooling	None in base specifications.
Exterior Components	Economy open front entry porch; with concrete or wood steps and floor; minimal extension of dwelling roof or separate roof cover, slightly wider than entry door.

Conventional

Class 3
Cost Factor Tables

One Story Base Factors
(Floor Area — Cost Per Sq. Ft.)

	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900
0	71.29	67.38	64.33	61.90	59.91	58.25	56.84	55.64	54.59	53.68	52.87	52.16	51.52
10	70.85	67.04	64.07	61.68	59.73	58.09	56.71	55.52	54.50	53.59	52.80	52.09	51.46
20	70.42	66.71	63.80	61.47	59.55	57.95	56.58	55.42	54.40	53.51	52.72	52.02	51.40
30	70.00	66.39	63.55	61.26	59.38	57.80	56.46	55.31	54.31	53.43	52.65	51.96	51.34
40	69.60	66.07	63.30	61.06	59.21	57.66	56.34	55.20	54.21	53.34	52.58	51.89	51.28
50	69.20	65.77	63.05	60.85	59.04	57.51	56.22	55.10	54.12	53.26	52.50	51.83	51.22
60	68.82	65.47	62.81	60.66	58.87	57.38	56.10	54.99	54.03	53.18	52.43	51.76	51.16
70	68.44	65.17	62.58	60.46	58.71	57.24	55.98	54.89	53.94	53.10	52.36	51.70	51.11
80	68.08	64.89	62.35	60.27	58.55	57.10	55.86	54.79	53.85	53.03	52.29	51.64	51.05
90	67.72	64.61	62.12	60.09	58.40	56.97	55.75	54.69	53.76	52.95	52.22	51.58	50.99

Second Floor Factors
(Floor Area — Cost Per Sq. Ft.)

	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600
0	54.95	50.80	48.04	46.06	44.58	43.43	42.51	41.75	41.12	40.59	40.14	39.74	39.39
10	54.44	50.47	47.81	45.89	44.45	43.33	42.42	41.68	41.07	40.54	40.09	39.70	39.36
20	53.96	50.16	47.59	45.73	44.33	43.23	42.34	41.62	41.01	40.49	40.05	39.67	39.33
30	53.50	49.86	47.38	45.57	44.20	43.13	42.26	41.55	40.95	40.45	40.01	39.63	39.30
40	53.06	49.57	47.17	45.42	44.09	43.03	42.19	41.49	40.90	40.40	39.97	39.60	39.27
50	52.64	49.29	46.97	45.27	43.97	42.94	42.11	41.42	40.85	40.35	39.93	39.56	39.24
60	52.24	49.02	46.78	45.12	43.86	42.85	42.04	41.36	40.79	40.31	39.89	39.53	39.21
70	51.86	48.76	46.59	44.98	43.74	42.76	41.96	41.30	40.74	40.26	39.85	39.49	39.18
80	51.49	48.51	46.41	44.84	43.64	42.67	41.89	41.24	40.69	40.22	39.81	39.46	39.15
90	51.14	48.27	46.23	44.71	43.53	42.59	41.82	41.18	40.64	40.18	39.78	39.43	39.12

Basement Factors
(Floor Area — Cost Per Sq. Ft.)

	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
Unfinished	49.17	44.40	41.23	38.96	37.26	35.94	34.88	34.01	33.29	32.68	32.16
Low Cost	60.99	55.76	52.27	49.78	47.91	46.46	45.30	44.35	43.56	42.88	42.31
Finished	72.09	66.49	62.75	60.08	58.08	56.52	55.27	54.25	53.40	52.69	52.07

	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
Unfinished	31.70	31.30	30.95	30.64	30.36	30.11	29.89	29.68	29.49	29.32	29.16
Low Cost	41.81	41.38	40.99	40.65	40.34	40.07	39.82	39.59	39.39	39.20	39.02
Finished	51.54	51.07	50.66	50.29	49.96	49.67	49.40	49.16	48.94	48.73	48.55

Attic Factors
(Floor Area — Cost Per Sq. Ft.)

	200	300	400	500	600	700	800	900	1,000	1,100	1,200
Unfinished	43.46	33.60	28.67	25.72	23.75	22.34	21.28	20.46	19.80	19.27	18.82
Low Cost	54.83	44.36	39.13	35.99	33.90	32.41	31.29	30.41	29.72	29.15	28.67
Finished	65.58	54.65	49.19	45.91	43.72	42.16	40.99	40.08	39.35	38.75	38.26

Conventional

Class 3 (cont.)
Adjustment Factors

Foundation

Apply cost to ground floor area	**SQ. FT.**
Wood frame on masonry piers	– $ 1.65

Roof

Apply costs to ground floor area	**SQ. FT.**		**SQ. FT.**
Comp. shingle, light weight arch.	+ $ .20	Cedar shake, medium weight	+ $ .85
Baked enamel, metal	+ 2.20	Cedar shingle	+ 1.30

Interior Components

	EACH		**EACH**
APPLIANCES		**STOVES AND FIREPLACES (cont.)**	
		Fireplaces	
Basic set: drop-in range, hood-fan, dishwasher, garbage disposer	+ $ 1,200	Direct vent, gas fired fascia surround, non-brick	+ $ 2,040
Range, drop-in	+ 550	Interior masonry,	
Hood-fan	+ 180	mantel high face brick single	+ 2,690
Dishwasher	+ 340	raised hearth	+ 580
Garbage disposer	+ 130	Prefab. metal box and flue, gas log, mantel high face brick	+ 2,520
STOVES AND FIREPLACES		Additional features:	
Stoves		Outside brick chimney;	
Wood stove w/flue	+ 2,600	one story	+ 630
Pellet stove w/flue	+ 3,950		
Gas stove w/flue	+ 2,270		
	SQ. FT.		
Floor and wall heat shield	+ $ 9.00		

Conventional

Class 3 (cont.)
Adjustment Factors

Plumbing

	EACH		EACH
FIXTURES			
Full bath: tub w/shower over or shower stall, lavatory, toilet	+ $1,250	Stall shower, w/door, fiberglass	+ $1,200
Half bath: lavatory, toilet	+ 500	Lavatory, enameled steel	+ 250
Bathtub, enameled steel or fiberglass	+ 500	Toilet, standard	+ 250
add for:		Kitchen sink:	
shower w/plastic surround	+ 250	Stainless steel, double	+ 400
sliding plastic door	+ 90	Laundry tub, single fiberglass	+ 300
		Water heater	+ 350

Heating — Cooling

Area Heated/Cooled SQ. FT.:	800	1000	1,200	1,400	1,600	1,800	2,000	2,200	2,400
Electric baseboard, wall unit, or ceiling cable	2.20	2.05	1.90	1.75	1.65	1.60	1.55	1.50	1.45
Forced air heating	3.70	2.95	2.45	2.25	2.05	1.90	1.75	1.70	1.60

Conventional

Class 3

Garage

FLOOR AREA — COST PER SQ. FT.

ATTACHED

Garage unfinished with interior firewall only. Construction feature comparable to house, slab floor, minimum lighting and outlets.

	200	300	400	500	600	700	800
0	54.05	44.78	40.15	37.37	35.52	34.20	33.21
25	50.96	43.36	39.34	36.84	35.15	33.92	33.00
50	48.49	42.14	38.61	36.36	34.81	33.67	32.80
75	46.47	41.08	37.96	35.92	34.49	33.43	32.61

		SQ. FT.	LIN. FT.	EACH
Finished				
Low-cost wallboard or equivalent	+	$ 1.90		
Plaster or textured drywall	+	2.65		

FLOOR AREA — COST PER SQ. FT.

DETACHED

Garage unfinished with construction features comparable to house, slab floor, minimum lighting and outlets.

	200	300	400	500	600	700	800
0	55.56	46.78	42.39	39.76	38.01	36.75	35.81
25	52.63	45.43	41.62	39.26	37.65	36.49	35.61
50	50.29	44.27	40.93	38.80	37.33	36.25	35.42
75	48.38	43.27	40.31	38.39	37.03	36.02	35.25

		SQ. FT.	LIN. FT.	EACH
Finished				
Low-cost wallboard or equivalent	+	$ 1.90		
Plaster or textured drywall	+	2.65		

ADJUSTMENT FACTORS

		SQ. FT.	LIN. FT.	EACH
ATTIC; apply cost to attic area				
Storage; pull down stairs, sub floor	+	$ 5.10		
ROOF				
Comp. shingle, light weight arch	+	.20		
Baked enamel, metal	+	2.20		
Cedar shake, medium weight	+	.85		
Cedar shingle	+	1.30		
AUTOMATIC DOOR OPENER	+			$ 350.00

Conventional

Class 3

Carport

Construction features comparable to house, slab floor, open side and end(s)

FLOOR AREA

ATTACHED
- Flat or shed
- Same as house

	200	300	400	500	600	700	800
Flat	22.66	21.70	21.22	20.94	20.75	20.61	20.51
Same as house	24.67	23.84	23.43	23.18	23.02	22.90	22.81

DETACHED
- Flat or shed
- Gable or hip

	200	300	400	500	600	700	800
Flat	22.86	21.90	21.43	21.14	20.95	20.81	20.71
Same as house	24.88	24.04	23.63	23.38	23.21	23.09	23.00

ADJUSTMENT FACTORS

		SQ. FT.	LIN. FT.	EACH
ROOF				
Comp. shingle, light weight arch.	+	$ .20		
Baked enamel, metal	+	2.20		
Cedar shake, medium weight	+	.85		
Cedar shingle	+	1.30		
FLOOR				
Gravel	–	$2.00		

Conventional

Class 5

Class Features

Class 5 represents average quality homes built for speculation or on order by a volume builder. They reflect popular combinations of style, design, and functional utility with a convenient floor plan and are acceptable to a broad portion of the market.

These homes may have exterior ornamentation such as brick veneer, railings, or cornice trim. They have a larger, often multi-storied entry area with some type of outside window area to give a more expansive feeling. Typically, windows are large and numerous, and accent windows are common. Bathroom fixtures are average quality with entry-level designer faucets. Built-in appliances are average-quality and often include separate ovens and cook tops. Interior features may include some average quality hardwood paneling, or painted or stained wainscoting.

Class Illustrations





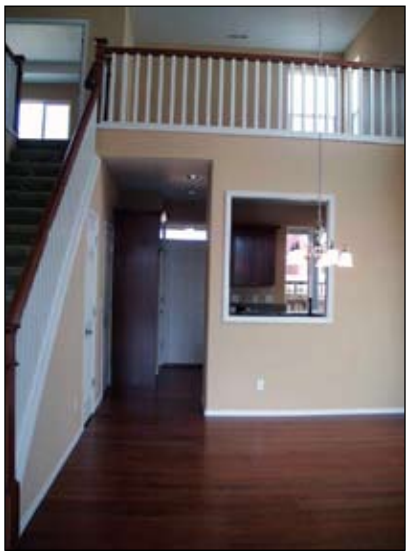







Class 5

Interior Features






Conventional

Class 5 (cont.)

Item	Base Specifications
Foundation	Crawl space excavation; spread footing; continuous concrete or masonry perimeter wall; interior piers; vent openings; access opening; backfill and grading.
Exterior Wall	Stud frame construction; insulation; sheathing and average quality painted siding or equivalent construction; average quality exterior doors and windows; may have optional items such as masonry trim, windows boxes, shutters, etc.
Roof	Moderate to complex design; wood frame construction; ceiling joists; average quality solid or spread sheathing; light weight architectural composition shingle cover; ceiling insulation; gutters and downspouts; moderate attention to roof trim.
Floor	Wood frame construction with underpinning, subflooring and underlayment; average quality hardwood flooring and finish or carpet and padding; average quality resilient cover or tile in appropriate areas.
Partitions	Wood frame construction; average quality textured plaster or drywall with painted surfaces, wallpaper, veneer paneling or wainscoting; similar material for ceiling cover and interior cover of exterior wall; average quality doors, hardware and trim; painted or stained average quality softwood millwork.
Interior Components	Cabinet quantity is proportionate to overall house size; cabinets of average quality plywood with hardwood veneer, stained or painted, or hardboard with painted finish; average quality laminate or tile countertops and backsplash; wardrobe, linen, and utility closets with shelving; average quality hardware; moderate width stairway of single or double angles with landings, hardwood rail with painted softwood spindles, and average quality carpet or hardwood tread cover.
Electrical	Entry service; multi-circuit panel; non metallic sheathed cable wiring; adequate number of convenience outlets; average quality light fixtures; range and dryer outlets; may have special appliance and equipment outlets.
Plumbing	Rough-in plumbing costs only.
Heating-Cooling	None in base specifications.
Exterior Components	Average quality open front entry porch integrated with house design, adequate to cover entry area; concrete or wood steps and floor.

Conventional

Class 5 — Cost Factor Tables

One Story Base Factors
(Floor Area — Cost Per Sq. Ft.)

	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000
0	128.13	120.64	114.65	109.74	105.65	102.20	99.23	96.66	94.42	92.43	90.67	89.09	87.67
10	127.30	119.98	114.11	109.30	105.28	101.88	98.96	96.43	94.21	92.25	90.50	88.94	87.54
20	126.49	119.34	113.59	108.87	104.92	101.57	98.69	96.19	94.00	92.06	90.34	88.80	87.41
30	125.69	118.71	113.07	108.44	104.56	101.26	98.42	95.96	93.80	91.88	90.18	88.65	87.27
40	124.92	118.09	112.57	108.02	104.20	100.96	98.16	95.73	93.59	91.70	90.02	88.51	87.14
50	124.16	117.48	112.08	107.61	103.86	100.66	97.90	95.50	93.39	91.53	89.86	88.36	87.01
60	123.43	116.89	111.59	107.20	103.51	100.37	97.65	95.28	93.20	91.35	89.70	88.22	86.89
70	122.71	116.31	111.12	106.81	103.18	100.08	97.40	95.06	93.00	91.18	89.55	88.08	86.76
80	122.00	115.75	110.65	106.42	102.84	99.79	97.15	94.84	92.81	91.01	89.39	87.94	86.64
90	121.31	115.19	110.19	106.03	102.52	99.51	96.90	94.63	92.62	90.84	89.24	87.81	86.51

	2,100	2,200	2,300	2,400	2,500	2,600	2,700	2,800	2,900	3,000
0	86.39	85.22	84.15	83.18	82.28	81.45	80.68	79.97	79.30	78.68
10	86.27	85.11	84.05	83.08	82.19	81.37	80.61	79.90	79.24	78.62
20	86.15	85.00	83.95	82.99	82.11	81.29	80.53	79.83	79.17	78.56
30	86.03	84.89	83.85	82.90	82.02	81.21	80.46	79.76	79.11	78.50
40	85.91	84.78	83.75	82.81	81.94	81.13	80.39	79.69	79.05	78.45
50	85.79	84.68	83.66	82.72	81.85	81.06	80.32	79.63	78.99	78.39
60	85.67	84.57	83.56	82.63	81.77	80.98	80.25	79.56	78.92	78.33
70	85.56	84.46	83.46	82.54	81.69	80.90	80.17	79.50	78.86	78.27
80	85.45	84.36	83.37	82.45	81.61	80.83	80.10	79.43	78.80	78.21
90	85.33	84.26	83.27	82.36	81.53	80.75	80.04	79.37	78.74	78.16

Second Floor Factors
(Floor Area — Cost Per Sq. Ft.)

	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600
0	88.74	81.14	76.07	72.45	69.74	67.62	65.93	64.55	63.40	62.43	61.59	60.87	60.23
10	87.81	80.54	75.65	72.14	69.50	67.44	65.78	64.43	63.30	62.34	61.51	60.80	60.17
20	86.93	79.97	75.25	71.85	69.27	67.26	65.64	64.31	63.19	62.25	61.44	60.73	60.12
30	86.09	79.42	74.86	71.56	69.05	67.08	65.49	64.18	63.09	62.16	61.36	60.67	60.06
40	85.28	78.89	74.49	71.28	68.83	66.90	65.35	64.07	62.99	62.08	61.29	60.60	60.00
50	84.52	78.37	74.12	71.00	68.62	66.73	65.21	63.95	62.89	61.99	61.22	60.54	59.94
60	83.78	77.88	73.77	70.74	68.41	66.57	65.07	63.84	62.80	61.91	61.14	60.48	59.89
70	83.08	77.40	73.42	70.48	68.21	66.40	64.94	63.72	62.70	61.83	61.07	60.41	59.83
80	82.41	76.94	73.09	70.22	68.01	66.24	64.81	63.61	62.61	61.75	61.00	60.35	59.78
90	81.76	76.50	72.76	69.98	67.81	66.09	64.68	63.51	62.52	61.67	60.93	60.29	59.73

	1,700	1,800	1,900	2,000
0	59.67	59.18	58.73	58.33
10	59.62	59.13	58.69	58.29
20	59.57	59.08	58.65	58.26
30	59.52	59.04	58.61	58.22
40	59.47	58.99	58.57	58.18

	1,700	1,800	1,900	2,000
50	59.42	58.95	58.53	58.15
60	59.37	58.90	58.49	58.11
70	59.32	58.86	58.45	58.07
80	59.27	58.82	58.41	58.04
90	59.22	58.77	58.37	58.00

Conventional

Class 5
Cost Factor Tables (cont.)

Basement Factors
(Floor Area — Cost Per Sq. Ft.)

	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
Unfinished	70.39	62.64	57.47	53.78	51.01	48.86	47.13	45.72	44.55	43.56	42.70
Low Cost	86.62	78.31	72.78	68.82	65.86	63.55	61.70	60.19	58.93	57.87	56.96
Finished	103.25	94.72	89.03	84.97	81.93	79.56	77.66	76.11	74.82	73.73	72.79

	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
Unfinished	41.97	41.32	40.75	40.24	39.79	39.38	39.01	38.68	38.37	38.09	37.83
Low Cost	56.16	55.47	54.86	54.32	53.83	53.40	53.00	52.64	52.31	52.01	51.73
Finished	71.98	71.27	70.64	70.08	69.59	69.14	68.73	68.36	68.02	67.72	67.43

Attic Factors
(Floor Area — Cost Per Sq. Ft.)

	200	300	400	500	600	700	800	900	1,000	1,100	1,200
Unfinished	72.47	54.79	45.95	40.64	37.10	34.58	32.68	31.21	30.03	29.07	28.26
Low Cost	87.47	69.34	60.27	54.83	51.20	48.61	46.67	45.16	43.95	42.96	42.14
Finished	102.18	84.14	75.12	69.71	66.10	63.52	61.59	60.09	58.88	57.90	57.08

Conventional

Class 5 (cont.)
Adjustment Factors

Exterior Wall

		LIN. FT.
BRICK VENEER, full 8-foot wall	+	$104.35

Roof

		SQ. FT.			SQ. FT.
Apply costs to ground floor area					
Comp. shingle, medium weight, 3 tab	–	$ .10	Baked enamel, metal	+	$ 2.00
Comp. shingle, medium weight architectural.	+	.15	Cedar shake, medium weight	+	.65
Comp. shingle, heavy weight arch.	+	.30	Cedar shingle	+	1.10
Fiber-cement composite	+	1.55	Concrete tile	+	2.50

Interior Components

		EACH			EACH
APPLIANCES			**STOVES AND FIREPLACES (cont.)**		
			Fireplaces		
Basic set: drop-in range, hood-fan, dishwasher, garbage disposer	+	$ 2,220	Direct vent, gas fired; fascia surround, non-brick	+	$ 2,600
Range, drop-in, self clean	+	900	Interior masonry, ceiling high face brick, raised hearth		
Oven, single, self clean	+	870	single	+	4,140
Oven, double, self clean	+	1,800	see-through	+	5,600
Cooktop	+	550	backed	+	7,280
w/built-in exhaust and grill	+	790	stacked	+	7,900
Microwave oven, built-in	+	520	Prefab. metal box and flue, gas log, ceiling high face brick face	+	3,580
Hood-fan	+	410	Additional features:		
Dishwasher	+	720	Outside brick chimney;		
Garbage disposer	+	190	one story	+	840
			two story	+	1,120
STOVES AND FIREPLACES					
Stoves					
Wood stove w/flue	+	3,160			
Pellet stove w/flue	+	4,510			
Gas stove w/flue	+	2,830			
		SQ. FT.			
Floor and wall heat shield	+	$ 11.80			

Conventional

Class 5 (cont.)
Adjustment Factors

Plumbing

		EACH
FIXTURES		
Full bath: tub w/shower over or shower stall, lavatory, toilet	+	$ 2,350
Half bath: lavatory, toilet	+	950
Bathtub, enameled steel or fiberglass	+	900
add for:		
shower w/fiberglass surround	+	500
shower w/tile surround	+	900
sliding glass door	+	250
Stall shower, w/door, fiberglass	+	1,600
Stall shower, w/door, tile	+	2,600
Garden tub	+	$ 2,500
Jet tub	+	3,900
Lavatory, china	+	500
Toilet, standard	+	450
Kitchen sink:		
Enameled steel, double	+	600
Bar sink, stainless steel	+	450
Hot water dispenser	+	250
Laundry tub, single fiberglass	+	550
Water heater	+	450

Heating — Cooling

Area Heated/Cooled SQ. FT.:	1,000	1,200	1,400	1,600	1,800	2,000	2,200	2,400	2,600
Electric baseboard, wall units, or ceiling cable	2.15	2.00	1.90	1.80	1.75	1.70	1.65	1.60	1.55
Forced air heating	3.65	3.05	2.75	2.50	2.30	2.10	1.95	1.90	1.80
Forced air heating and cooling	4.55	3.85	3.40	3.10	2.90	2.60	2.50	2.35	2.20
Heat pump	5.05	4.25	3.80	3.45	3.20	2.90	2.75	2.60	2.45

Area Heated/Cooled SQ. FT.:	2,800	3,000	3,200
Electric baseboard, wall units, or ceiling cable	1.50	1.45	1.40
Forced air heating	1.70	1.60	1.50
Forced air heating and cooling	2.05	2.00	1.90
Heat pump	2.30	2.20	2.10

Conventional

Class 5

Garage

ATTACHED

Garage unfinished with interior fire-wall only. Construction feature comparable to house, slab floor, minimum lighting and outlets.

FLOOR AREA — COST PER SQ. FT.

	200	300	400	500	600	700	800
0	99.20	79.38	69.48	63.53	59.57	56.74	54.61
25	92.59	76.33	67.73	62.40	58.77	56.15	54.16
50	87.31	73.72	66.17	61.37	58.04	55.60	53.74
75	82.99	71.46	64.78	60.43	57.36	55.09	53.34

		SQ. FT.	LIN. FT.	EACH
Finished				
Low-cost wallboard or equivalent	+	$ 2.50		
Plaster or textured drywall	+	3.80		

DETACHED

Garage unfinished with construction features comparable to house, slab floor, minimum lighting and outlets.

FLOOR AREA — COST PER SQ. FT.

	200	300	400	500	600	700	800
0	102.37	83.81	74.53	68.97	65.26	62.60	60.62
25	96.18	80.96	72.90	67.91	64.51	62.06	60.19
50	91.23	78.51	71.44	66.94	63.83	61.54	59.80
75	87.18	76.39	70.14	66.06	63.19	61.07	59.42

		SQ. FT.	LIN. FT.	EACH
Finished				
Low-cost wallboard or equivalent	+	$ 2.50		
Plaster or textured drywall	+	3.80		

ADJUSTMENT FACTORS

		SQ. FT.	LIN. FT.	EACH
EXTERIOR WALL				
Brick veneer; full 8-foot wall			$ 65.85	
ATTIC; apply cost to attic area				
Storage; pull down stairs, subfloor	+	$ 5.10		
ROOF				
Comp. shingle, medium weight 3 tab	–	.10		
Comp. shingle, medium weight architectural	+	.15		
Comp. shingle, heavy weight architectural	+	.30		
Fiber-cement composite	+	1.55		
Baked enamel, metal	+	2.00		
Cedar shake, medium weight	+	.65		
Cedar shingle	+	1.10		
Concrete tile	+	2.50		
AUTOMATIC DOOR OPENER	+			$ 450.00

Conventional

Class 5

Carport

Construction features comparable to house, slab floor, open side and end(s)

FLOOR AREA

ATTACHED
- Flat or shed
- Same as house

	200	300	400	500	600	700	800
Flat	34.49	33.45	32.93	32.62	32.41	32.26	32.15
Same as house	38.01	37.06	36.59	36.31	36.12	35.99	35.89

DETACHED
- Flat or shed
- Gable or hip

	200	300	400	500	600	700	800
Flat	34.71	33.69	33.18	32.87	32.66	32.52	32.41
Same as house	38.24	37.31	36.85	36.57	36.38	36.25	36.15

ADJUSTMENT FACTORS

		SQ. FT.	LIN. FT.	EACH
ROOF				
Comp. shingle, medium weight, 3 tab	–	$ .10		
Comp. shingle, medium weight, arch.	+	.15		
Comp. shingle, heavy weight, arch.	+	.30		
Fiber-cement composite	+	1.55		
Baked enamel, metal	+	2.00		
Cedar shingle	+	1.10		
Cedar shake, medium weight	+	.65		
Concrete tile	+	2.50		
FLOOR				
Gravel	–	$ 2.50		
EXTERIOR WALL (Per lineal foot of wall)				
Curtain wall, screen wall, or storage room wall materials similar to house.	+		$ 83.25	

Conventional

Class 7

Class Features

Class 7 homes are custom built, usually designed by professional home planners, and built by specialty contractors, possibly under architectural supervision. Special effort is made to include good style and design features in the exterior wall, roof, and interior construction detail. Care is taken to ensure convenient floor plans, window placement, built-ins and adaptation of the house to the site.

All materials and labor are high quality. The front of the house usually has a large amount of high quality brick veneer or other comparable materials with similar styling features and ornamentation. Windows are usually wood constructed to integrate with the design of the house. The entry area is large with a raised ceiling and hardwood, tile, or marble floors. Three formal rooms off the entry are common and special interior detail may include ample built-ins, solid core raised panel doors, and high quality designer plumbing fixtures in the kitchen and baths.

Class Illustrations



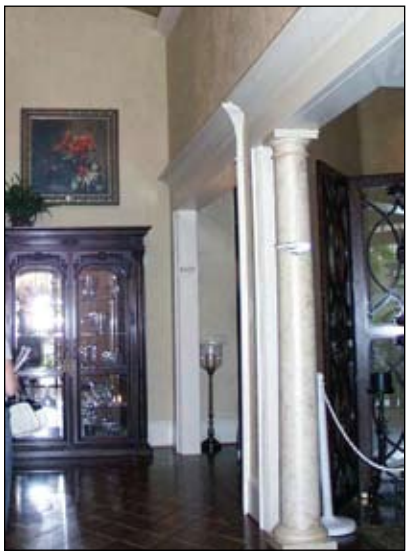






Class 7

Interior Features








Conventional

Class 7 (cont.)

Item	Base Specifications
Foundation	Crawl space excavation; special footings and walls of reinforced concrete for site adaptation; vent openings; interior piers; access openings; backfill and grading.
Exterior Wall	Stud frame construction; insulation; sheathing and high quality painted siding or equivalent construction; high quality exterior doors and windows; optional items such as decorative brick or stone trim, window boxes, shutters, etc.
Roof	Design in keeping with style of building; wood frame construction; ceiling joists; high quality spread sheathing; concrete tile cover; ceiling insulation; gutters and downspouts; special attention to roof trim.
Floor	Wood frame construction with underpinning, subflooring, and underlayment; high quality hardwood flooring and finish or carpet and padding; marble or tile accented entry; high quality hardwood flooring or tile in kitchen; high quality resilient cover or tile in baths and utility; will have some special design features such as sunken or elevated rooms, etc.
Partitions	Wood frame construction; high quality textured plaster or drywall with painted surfaces, decorative wallpaper, hardwood paneling or wainscoting; similar material for ceiling cover and interior cover of exterior wall; high quality doors with ornate hardware and trim; special hardwood millwork; may have custom crown molding.
Interior Components	Cabinet quantity proportionate to house size; cabinets of high quality painted or stained solid hardwood stock, or hardboard with painted finish, both with decorative trim; high quality tile, granite, or polymerized acrylic countertops and backsplash; built-in cabinetry in den or family room; make-up vanity and wall cabinets in master suite; wardrobe, linen, and utility closets with ample shelving; ornate hardware; may have other special built-in features; wide stairway of customized, complex, or curving design with heavy hardwood railing and spindles; high quality carpet or hardwood tread cover.
Electrical	Entry service; multi-circuit panel, heavy load capacity system; non-metallic sheathed cable wiring; numerous convenience outlets; high quality light fixtures of decorative design; special switches; numerous special appliance and equipment outlets.
Plumbing	Rough-in plumbing costs only.
Heating-Cooling	None in base specifications.
Exterior Components	High quality porches conforming to style and design of house, and adequate to cover entry area; concrete, wood, native stone, or equivalent construction.

Conventional

Class 7
Cost Factor Tables

One Story Base Factors
(Floor Area — Cost Per Sq. Ft.)

	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
0	334.55	320.51	308.34	297.69	288.29	279.94	272.46	265.74	259.65	254.12	249.07	244.44	240.18
10	333.05	319.21	307.21	296.70	287.41	279.15	271.76	265.10	259.08	253.59	248.59	244.00	239.77
20	331.57	317.94	306.10	295.72	286.54	278.38	271.06	264.47	258.50	253.07	248.11	243.56	239.37
30	330.12	316.68	305.00	294.75	285.68	277.61	270.37	263.85	257.94	252.56	247.64	243.12	238.97
40	328.68	315.44	303.91	293.79	284.83	276.85	269.69	263.23	257.38	252.05	247.17	242.69	238.57
50	327.27	314.21	302.84	292.85	283.99	276.10	269.01	262.62	256.82	251.54	246.70	242.26	238.17
60	325.88	313.01	301.78	291.91	283.17	275.36	268.35	262.02	256.27	251.04	246.24	241.84	237.78
70	324.51	311.81	300.74	290.99	282.34	274.62	267.68	261.42	255.73	250.54	245.79	241.42	237.39
80	323.15	310.64	299.71	290.08	281.53	273.90	267.03	260.82	255.19	250.04	245.33	241.00	237.01
90	321.82	309.48	298.69	289.18	280.73	273.18	266.38	260.23	254.65	249.55	244.88	240.59	236.63

	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800
0	236.25	232.61	229.22	226.08	223.14	220.39	217.81	215.39	213.12	210.97	208.94	207.02	205.20
10	235.87	232.26	228.90	225.77	222.86	220.13	217.56	215.16	212.89	210.76	208.74	206.83	205.03
20	235.50	231.91	228.58	225.47	222.57	219.86	217.32	214.93	212.68	210.55	208.55	206.65	204.85
30	235.12	231.56	228.26	225.17	222.30	219.60	217.07	214.70	212.46	210.35	208.35	206.46	204.68
40	234.76	231.22	227.94	224.88	222.02	219.34	216.83	214.47	212.24	210.14	208.16	206.28	204.50
50	234.39	230.88	227.62	224.58	221.74	219.08	216.58	214.24	212.03	209.94	207.97	206.10	204.33
60	234.03	230.55	227.31	224.29	221.47	218.82	216.34	214.01	211.81	209.74	207.77	205.92	204.16
70	233.67	230.21	227.00	224.00	221.20	218.57	216.10	213.78	211.60	209.54	207.58	205.74	203.99
80	233.31	229.88	226.69	223.71	220.93	218.32	215.87	213.56	211.39	209.34	207.40	205.56	203.82
90	232.96	229.55	226.38	223.42	220.66	218.06	215.63	213.34	211.18	209.14	207.21	205.38	203.65

Second Floor Factors
(Floor Area — Cost Per Sq. Ft.)

	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200
0	157.10	151.80	147.37	143.63	140.42	137.64	135.21	133.06	131.16	129.45	127.91	126.52	125.26
10	156.53	151.32	146.97	143.29	140.13	137.38	134.98	132.86	130.98	129.29	127.77	126.39	125.14
20	155.96	150.85	146.58	142.95	139.84	137.13	134.76	132.66	130.80	129.13	127.62	126.26	125.02
30	155.40	150.39	146.19	142.62	139.55	136.88	134.54	132.47	130.62	128.97	127.48	126.13	124.90
40	154.86	149.93	145.80	142.29	139.26	136.63	134.32	132.27	130.45	128.81	127.34	126.00	124.78
50	154.32	149.49	145.43	141.97	138.98	136.39	134.10	132.08	130.28	128.66	127.20	125.88	124.67
60	153.80	149.05	145.06	141.65	138.71	136.15	133.89	131.89	130.11	128.51	127.06	125.75	124.55
70	153.28	148.62	144.69	141.34	138.44	135.91	133.68	131.71	129.94	128.36	126.92	125.63	124.44
80	152.78	148.20	144.33	141.03	138.17	135.67	133.47	131.52	129.78	128.21	126.79	125.50	124.33
90	152.28	147.78	143.98	140.72	137.90	135.44	133.27	131.34	129.61	128.06	126.65	125.38	124.22

	2,300	2,400	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
0	124.10	123.05	122.07	121.18	120.34	119.57	118.85	118.18	117.55	116.97	116.41	115.89	115.40
10	123.99	122.95	121.98	121.09	120.26	119.50	118.78	118.12	117.49	116.91	116.36	115.84	115.35
20	123.89	122.85	121.89	121.00	120.18	119.42	118.71	118.05	117.43	116.85	116.31	115.79	115.31
30	123.78	122.75	121.80	120.92	120.11	119.35	118.65	117.99	117.37	116.80	116.25	115.74	115.26
40	123.67	122.65	121.71	120.84	120.03	119.28	118.58	117.93	117.31	116.74	116.20	115.69	115.21
50	123.56	122.55	121.62	120.75	119.95	119.21	118.51	117.86	117.25	116.68	116.15	115.64	115.17
60	123.46	122.45	121.53	120.67	119.87	119.13	118.44	117.80	117.20	116.63	116.10	115.59	115.12
70	123.35	122.36	121.44	120.59	119.80	119.06	118.38	117.74	117.14	116.57	116.04	115.55	115.07
80	123.25	122.26	121.35	120.51	119.72	118.99	118.31	117.68	117.08	116.52	115.99	115.50	115.03
90	123.15	122.17	121.26	120.42	119.65	118.92	118.25	117.61	117.02	116.47	115.94	115.45	114.98

Conventional

Class 7
Cost Factor Tables (cont.)

Basement Factors
(Floor Area — Cost Per Sq. Ft.)

	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600
Unfinished	124.08	112.31	103.49	96.62	91.13	86.64	82.89	79.72	77.01	74.65	72.59
Low Cost	151.76	139.69	130.63	123.59	117.95	113.34	109.50	106.25	103.46	101.04	98.93
Finished	185.20	173.58	164.86	158.08	152.65	148.21	144.52	141.39	138.70	136.38	134.34

	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500	2,600	2,700
Unfinished	70.78	69.16	67.72	66.41	65.24	64.17	63.19	62.30	61.47	60.71	60.01
Low Cost	97.07	95.41	93.92	92.59	91.38	90.28	89.28	88.36	87.52	86.74	86.02
Finished	132.55	130.95	129.53	128.24	127.08	126.02	125.06	124.17	123.36	122.61	121.91

	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800
Unfinished	59.35	58.74	58.18	57.64	57.15	56.68	56.24	55.82	55.43	55.06	54.71
Low Cost	85.34	84.72	84.14	83.59	83.08	82.60	82.15	81.72	81.32	80.94	80.58
Finished	121.27	120.67	120.10	119.58	119.09	118.62	118.19	117.78	117.39	117.03	116.68

Attic Factors
(Floor Area — Cost Per Sq. Ft.)

	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
Unfinished	141.33	118.83	103.83	93.12	85.08	78.83	73.83	69.74	66.34	63.45	60.98
Low Cost	168.88	145.91	130.60	119.66	111.46	105.08	99.98	95.80	92.32	89.37	86.85
Finished	199.06	176.73	161.85	151.22	143.24	137.04	132.08	128.02	124.64	121.78	119.32

Conventional

Class 7 (cont.)
Adjustment Factors

Exterior Wall

		LIN. FT.
BRICK VENEER, full 8 foot wall	+	$ 57.15

Roof

		SQ. FT.			SQ. FT.
Apply costs to ground floor area					
Comp. shingle, heavy weight arch.	–	$ 2.20	Cedar shingle	–	$ 1.40
Fiber-cement composite	–	.95	Clay tile	+	5.75
Cedar shake, heavy weight	–	1.40	Copper shingle	+	5.75
			Slate shingle	+	9.75

Interior Components

		EACH
APPLIANCES		
Basic set: drop-in range, hood-fan, dishwasher, garbage disposer	+	$ 6,170
Range, drop-in, self clean	+	2,750
Commercial range, drop-in	+	6,950
Oven, single, self clean	+	1,760
Oven, double, self clean	+	2,600
Warming drawer	+	1,300
Cooktop	+	1,180
w/built-in exhaust and grill	+	1,420
Microwave oven, built-in	+	1,760
Hood-fan	+	2,050
Dishwasher	+	1,120
Garbage disposer	+	250
Trash compactor	+	770
Built-in refrigerator	+	6,310
Wine cooler, under counter	+	2,100
STOVES AND FIREPLACES		
Stoves		
Wood stove w/flue	+	3,840
Pellet stove w/flue	+	5,180
Gas stove w/flue	+	3,500
		SQ. FT.
Floor and wall heat shield	+	$ 15.10

		EACH
STOVES AND FIREPLACES (cont.)		
Fireplaces		
Direct vent, gas fired;		
fascia surround, non-brick	+	$ 3,280
Interior masonry,		
ceiling high face brick face,		
raised hearth		
single	+	5,600
see-through	+	7,560
backed	+	9,800
stacked	+	10,640
Additional features:		
Outside brick chimney;		
one story	+	1,230
two story	+	1,570

Conventional

Class 7 (cont.)
Adjustment Factors

Plumbing

		EACH
FIXTURES		
Full bath: tub w/shower over or shower stall, lavatory, toilet	+	$ 8,300
Half bath: lavatory, toilet	+	3,800
Bathtub, enameled steel or fiberglass	+	2,300
add for:		
shower w/fiberglass surround	+	1,300
shower w/tile surround	+	2,200
sliding glass door	+	600
Stall shower, w/door, fiberglass	+	3,300
Stall shower, w/door, tile	+	5,300
Garden tub, designer	+	3,800
Jet tub	+	6,300
Lavatory, designer	+	2,400
Toilet, designer	+	1,400
Bidet	+	1,150
Kitchen sink:		
Enameled steel, double	+	1,800
Bronze/copper farm sink	+	6,000
Hot water dispenser	+	500
Bar sink, china or SS	+	1,200
Bar sink, bronze/copper	+	2,000
Laundry tub, single fiberglass	+	1,800
Water heater	+	550

Heating — Cooling

Area Heated/Cooled SQ. FT.:	3,000	3,400	3,800	4,200	4,600	5,000	5,400	5,800
Hot water baseboard	2.90	2.75	2.75	2.70	2.70	2.70	2.60	2.60
Electric ceiling cable	1.55	1.50	1.50	1.45	1.45	1.45	1.40	1.40
Forced air heating	1.75	1.70	1.70	1.65	1.65	1.65	1.60	1.60
Forced air heating and cooling	2.20	2.10	2.10	2.05	2.05	2.05	2.00	2.00
Heat pump	2.45	2.35	2.35	2.30	2.30	2.30	2.20	2.20

Area Heated/Cooled SQ. FT.:	6,200	6,600	7,000	7,400	7,800	8,200	8,600	9,000
Hot water baseboard	2.60	2.60	2.55	2.55	2.55	2.55	2.55	2.55
Electric ceiling cable	1.40	1.40	1.40	1.35	1.35	1.35	1.35	1.35
Forced air heating	1.60	1.60	1.55	1.55	1.55	1.55	1.55	1.55
Forced air heating and cooling	2.00	2.00	1.95	1.95	1.95	1.95	1.95	1.95
Heat pump	2.20	2.2	2.15	2.15	2.15	2.15	2.15	2.15

Area Heated/Cooled SQ. FT.:	9,400	9,800	10,200	10,600	11,000	11,400	11,800	12,200
Hot water baseboard	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.40
Electric ceiling cable	1.35	1.35	1.30	1.30	1.30	1.30	1.30	1.30
Forced air heating	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.45
Forced air heating and cooling	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.85
Heat pump	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.05

Interior Components

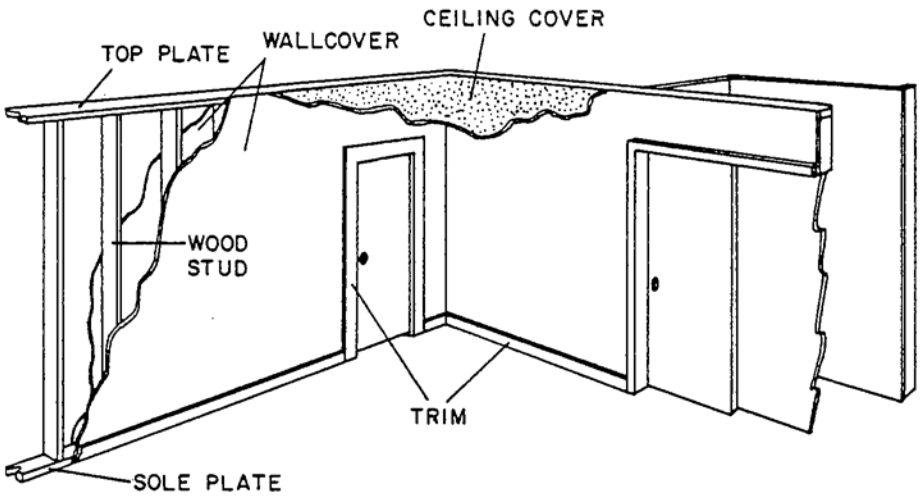
	Sq. Ft.	Lin. Ft.	Each
Residential elevators and lifts;			
Banister chair lift, straight run			$ 3,500
Banister chair lift, curved run			14,500
Conventional 3′ × 5′ cab; two-stop, includes framing			26,000
Add for each extra stop or floor			2,000
High-end deluxe elevator, three-stop			46,000
Dumbwaiter			8,000 to 14,000
Security alarm system			
8 zone hard wired system			$ 300
16 zone			390
24 zone			900
Video door phone system (includes phone, camera, monitor, power supply); add			660
Vacuum system: Includes rough-in, power unit, and accessory package			
Up to 1,700 square feet			$ 1,600
1,700 to 3,800 square feet			2,630
Over 3,800 square feet			4,150

Wine cellar: Includes cedar racking, cooling unit, and installation only. Does not include exterior grade door, framing, insulation and vapor barrier in walls, wall covering and paint, hard surface flooring (slate, tile, etc.), and electrical work. Experienced sub-contractors usually install these items.

Approximately 10′ x 10′ room, 1,600-bottle capacity, cedar racking, cooling unit, and installation $ 8,500

Partitions

Illustration — Complete Partitions Assembly



Exterior Components
Assembled Costs

Complete Assembly Includes all items and costs necessary for complete installation

	Sq. Ft.	Lin. Ft.	Each
Porches including steps; 2′ sidewalls			
Wood: joist frame and flooring			
open platform; pier and post foundation;			
no roof	$ 11.90		
roofed, light weight architectural composition shingle cover;			
concrete foundation			
simple shed roof	45.20		
gable or hip roof and ceiling	48.50		
Concrete: footing and slab on shallow fill			
open pad; no roof overhead	3.25		
roofed; slab floor			
simple, open ceiling	36.60		
gable or hip roof and ceiling	39.90		
Railings includes fittings and brackets			
Wood—plain design		$23.80	
ornamental; turned posts		26.80	
Metal—simple styling		40.20	
ornamental; decorative scroll		49.00	
Patio materials placed on-grade			
Concrete slab			
plain surface	3.25		
aggregate surface	3.25		
Average quality brick or flagstone			
poured concrete base	15.50		
sand bed	6.50		
Stamped concrete	12.00		
Paving stone, simple design	8.00		
Paving stone, complex design	10.00		
Paving stone, circular design	39.00		
Wood Deck includes pier and post foundation, stringers,			
decking, railing, and stairs			
Fir material	11.90		
Tight knot cedar	14.00		
Redwood	16.25		
Mahogany	15.70		
Composite	18.00		
Additional items			
stairs and landings	18.00		
wood railing			
plain design		13.60	
decorative		15.60	
Roof Cover woodframe; includes light support posts,			
beams, rafters, and cover material			
Aluminum or fiberglass	18.60		
Metal Awning: metal frame with aluminum cover			
12′ length, 44″ projection (width)	24.00		
Retractable, with remote control (cloth) 12′ length, 14′ projection			1,500

The Sales Comparison Approach to Value

A Self-Study Course for Assessors and Appraisers

Revised by Property Tax Division
Oregon Department of Revenue
June 2007

The Sales Comparison Approach to Value
A Self-Study Course for Assessors & Appraisers

Foreword

Up to this point, you have studied the cost approach to value. Another valuation method is the sales comparison approach (also called the market approach) where market data is used to estimate value by comparing the subject to similar properties that recently sold. Similarities and differences in units of comparison such as financing terms, market conditions, location, and physical characteristics are evaluated to arrive at a range of value for the subject. The next three lessons of this course will provide the information you will need to use this valuation method.

The sales comparison approach relies on these economic principles:

- Supply and demand—where the interaction of economic factors determines property prices.
- Substitution—a potential owner will pay no more for a property than the amount for which a property of like utility may be purchased.
- Contribution—the value of a component is measured by its contribution to the whole rather than by its cost.

The most numerous property types in an assessment jurisdiction are usually its residences. The sales of real property usually consist predominantly of residential properties. It is widely accepted by the public, the courts, and by competent evaluators that market price comparison is the method most likely to provide the best evidence of value for residential property and is the method preferred by the Oregon Tax Court. Therefore, assessment valuations of residential properties should be based upon sales price comparisons of similar properties gathered from the available sales information.

This instructional material is aimed at helping the new and inexperienced appraiser understand and utilize the sales comparison approach to value. The objective of this instruction is to enable the learner to:

- Decide if the sales comparison approach is most likely to provide the best evidence of value of a given property.
- List the subject property's characteristics as they are essential to selecting comparable sales data.
- Collect and interpret sales data regarding comparable properties.
- Conduct property inspections, observing and comparing the characteristics of the property using a form.
- Select appropriate units of comparison.
- Make the calculations and judgments necessary to estimate market value by applying adjustments to the sales prices of the comparable properties.

To ensure that the basic method of valuation by the sales comparison approach will not be obscured by complicated or confusing details, alternative methods used to cope with adverse situations have been omitted from this course. When the learner has achieved some degree of competency in the basic application of the sales comparison approach, the more complex valuation issues will become more easily understood.

Table of Contents

Lesson 1: Finding and Verifying Sales Data

How to Classify Property

Before you attempt to appraise a property, you must first make a decision as to what class of property it is that you are appraising. You will learn to do that in this section.

Refer to Exhibit A located in the Appendix of the Sales Comparison Approach course. Read through OAR 150-308.215(1)(A) regarding property class as a part of the assessment roll. OAR stands for Oregon Administrative Rule, 150 is the numerical designation for the Department of Revenue, 308.215(1)(A) refers to the statute number ORS 308.215(1)(A).

Administrative Rules are adopted by the Oregon Department of Revenue when a particular law needs further clarification for administrative purposes. In this case, the law, ORS 308.215(1)C cites items that are to be included as part of the assessment roll and lists one of the items as "The property class designation, in accordance with the classes of property established by regulation by the Department of Revenue."

This is the common factor to be used when determining which sales to consider in the sales comparison (market) approach.

For instance, a 5-acre parcel of land with no improvements where the highest and best use is for other than farm, range or timber production, offering a potential for further development, would probably be classified as "4-0-0 Tract land only."

1.1

How would a single family residence on a city lot be classified?

_____
Code

_____
Designation

1.2

What classification would apply to a commercial building on a lot located outside the city?

_____
Code

_____
Designation

1.3

A property owner has 360 acres of wheat land, of which 180 acres is in summer fallow. There are no improvements on the land. The classification of this property would be what?

_____
Code

_____
Designation

1.4

Although it is fairly straightforward, classification is important because it is the first step in the sales comparison approach to value. It is the method used to find properties that have the best possible opportunity to become good comparable properties for sales comparison.

Ideally, two properties are comparable only if they are of _____(the same/different) classifications.

Gathering Sales Data

The next thing to do in the sales comparison approach is to find sales data on properties you may want to use as comparables. (Refer to the Introduction unit, Lesson 2, "Selecting Your Approach," for a discussion on the definition of comparable properties.) There are several sources for such information.

The assessor's office sales data files are the most commonly used source of obtaining an initial list of recent sales. Other important sources of data (deeds, contracts, mortgages) are the recorded property instruments on file in the county clerk's office.

By law, all instruments conveying or contracting to convey fee title to any real estate shall state on the face of such instrument the true and actual consideration paid for such transfer, stated in terms of dollars. The stated consideration must

be noted on the instrument before the county clerk can accept the instrument for recordation.

Other sources available for market information are published news such as newspaper classified advertisements, professional magazines and journals, multiple listing service (MLS) reports, real estate brokers, appraisers, attorneys, bankers and other lenders. The best source of verification is a direct interview of the buyer, seller or broker.

1.5

One of the primary sources of sales data is the records of property instruments on file in the _____ (Assessor's Office/ County Clerk's Office)

The sales accumulated from the records in the clerk's office should form the basis of a sales data file in the assessor's office.

The pertinent data should be noted in a sales data record (either electronic or manual systems). This would include such items as:

a. The instrument number or the book and page number where the instrument is filed.

b. The property account number as indicated on the assessment roll.

c. The names of the grantor and grantee, their addresses, if available, and the name and address of the person confirming the sale.

d. The date of the transfer.

e. The amount of consideration shown in the deed or contract.

f. The amount of consideration as determined by confirmation, with adjustments.

g. The year for which assess values are pertinent.

h. The property classification code number.

i. The types of encumbrances or liens assumed by the purchaser and their amounts.

j. The type of financing used if readily available. Include the amount of down payment, interest rate, and duration of the mortgage.

k. The assessed value of land, improvements and the total.

l. The nature and value of any personal property included in the transaction.

m. Other data that might be available.

1.6

The names of the _____ (realtor and broker / grantor and grantee) are among the items that should be noted on the sales data record.

Verifying Sales Price

Although there is a great amount of information available from the deed records, you will need to confirm the sales price and the conditions surrounding the sale. Remember, a verified sale is more reliable than an unverified sale.

Confirmation may be made by contacting either the grantor or grantee, or if neither is available, the broker handling the transaction may be able to give you enough information to lead you to a conclusion of the validity of the sale as an arm's length transaction between a willing buyer and a willing seller.

Important information can be gathered by asking specific questions such as:

- What was the length of time the buyer looked for the property?
- What did the buyer find that was comparable?
- What was the sales price and were any special considerations included?
- Why did the seller want to sell?
- How long was the property offered for sale to the market?

1.7

If neither the grantor nor the grantee is available to confirm the sale conditions, you may be able to get sufficient information from the _____ (broker / current MLS listings).

1.8

You must carefully sort the information you accumulate and confirm all sales prices. Do not rely on any data which you have been unable to

confirm. Unreliable information could lead you to a miscalculation when arriving at your value conclusion.

Other sources of sales data and possible confirmation of sales data are:

1._____

2._____

3._____

4._____

To be considered as a potential comparable property, a sale must meet certain criteria:

- Both the buyer and seller are well informed and act in their best interest.
- The property has been exposed to the market for a reasonable length of time.
- The consideration was made in terms of cash or comparable financial agreement and does not involve undue compulsion, is not between relatives or business partners, is not a foreclosure or estate sale. Government transactions may not represent real market value.

However, it should be pointed out that a sale that does not meet all the criteria above should not automatically be considered an untrue representation of real market value. For example, a sale between business partners or relatives may have been based on an estimate of value by a real estate professional's appraisal.

1.9

You verify a sales price by checking an additional source. For instance, suppose you have an indicated sales price on the Johnsons' house of $275,000 from the records in the county clerk's office. You then go to the real estate agent who sold the Johnsons' house and are told the sale price was $275,000. You have just verified the sales price of the Johnson house.

The Smiths sold their house. You go to the buyer of the Smiths' house, who tells you the sales price was $210,000.

1. Where might you go for additional verification of the sales price of the Smiths' house?
   _____
   _____
   _____
2. Why would you verify the sale?
   _____
   _____
   _____

1.10

You have been given at least three possible sources for verification of the selling price of a property. When you get a price from one source, you confirm it by _____
_____.

1.11

The Parkers sell their house. You call them and ask how much they sold the house for and are told it sold for $230,000. You enter the sales price on your sales data card. What did you do wrong?

_____
_____

1.12

You are trying to verify the sales price on the Parker house. The Parkers tell you $230,000. You check with the grantee (buyer) and they tell you the sales price was $200,000. Now you are not sure what the selling price was. What would be the best thing to do?

a. Take the $230,000 figure as the selling price.

b. Take the $200,000 figure as the selling price.

c. Check an additional source.

1.13

Let's say you get sales prices on a piece of property from more than two sources. Two of the sources give the same or nearly the same price. You should take, as the sales price, the two figures that are the same. For example: The Parkers tell you they sold their property for $230,000 and the county clerk's records show an apparent sales price of $200,000. You are not satisfied, so you ask the buyer. They tell you they paid $230,000. You should use the $230,000 figure as the sales price and enter it on the property record card.

You verify a sales price when you get the same or nearly the same sales price from two sources. To verify a sales price means _____
_____
_____

1.14

You call a local real estate broker and they tell you that Brown's house sold last month for $180,000. You call the buyer and ask them what they paid. They report that the selling price was $180,000.

1. What were you doing when you asked the buyer how much they paid for their house?
   _____
   _____
2. Why did YOU ask?
   _____
   _____

1.15

Suppose you find an apparent sales price on the Barretts' house of $240,000. You call the real estate broker who sold the house. They tell you that the house sold for $258,000. You are not satisfied, so you see the buyer who says, "Yes, I paid $258,000 for the house."

1. Which figure will you use as the sales price on this property? _____
2. Why? _____
   _____

Verifying Conditions of a Sale

If you have a sale you think is out of line, verify the conditions of the sale. This means finding out if an unusual condition is causing a sale to be out of line.

For example, suppose you verify the sale price on a property you want to use as a comparable. The sale price is a lot higher than you think the property is worth. So you ask the buyer about the circumstances of the purchase. You have verified the conditions of a sale—finding out, if you can, why a sale is out of line.

1.16

Suppose you have four comparables. Three of them, all in the same development, sold for $245,000 to $255,000. The fourth sold for $215,000.

1. Is the $215,000 sale out of line? _____ (Yes / No)
2. Should you try to verify the conditions of the sale? _____ (Yes / No)

1.17

Finding out why a sale is out of line is called _____
_____ of a sale.

A sale that is out of line because of an unusual condition is unlikely to be repeated. So you cannot accept it as evidence of fair market value.

Unusual conditions that cause a sale to be out of line are:

- A forced buyer or seller
- An uninformed buyer or seller
- A sale between relatives
- A forced sale
- A property with hidden value

We are going to consider these conditions one at a time. First, we will examine "forced buyer or seller" as an unusual condition.

1.18

A forced buyer is someone who has to take the first property that comes along—even if it is overpriced. For example, the Martins bought a house for $208,000. You verified the sale, but you believe the house is worth no more than $190,000. Mr. Martin tells you he settled on this one in a hurry because his wife was due to have twins when they moved into town. The Martins were forced buyers.

You cannot accept this sale price as evidence of fair market value because:

a. The Martins paid $208,000 for the house.

b. The Martins were forced buyers.

c. You do not think the house was worth the price.

1.19

A forced seller is someone who has to sell at any price—usually less than the market value. For example, you want to qualify the sale of the Kellys' house, so you call the broker who handled the sale. From them you learn that Mr. Kelly was being transferred to California in two months.

The house was listed at $195,000, dropped to $180,000 and the Kellys panicked into selling at $170,000 a month later. Similar houses were selling for $185,000 to $199,000 when listed for a reasonable length of time.

You cannot accept this sale price as evidence of fair market value because the Kellys were _____ (forced / willing) sellers.

1.20

1. Someone who has to buy the first property that comes along—even if it is over-priced—is called a _____.
2. Someone who has to sell at any price is called a _____.

1.21

One condition under which a sale price could not be accepted as evidence of fair market value is a forced _____ or _____.

1.22

An uninformed buyer is someone who buys a property without first checking market values. For example, you confirm a sales price of $180,000 for a house you believe is worth no more than $165,000. You attempt to verify the sale with the buyer. You ask if they checked the sales prices of similar houses. They say no, they had not had an opportunity to do that. That is an uninformed buyer.

You cannot accept this sales price as evidence of fair market value because:

a. The buyer was an uninformed buyer.

b. The buyer paid too much for the house.

c. You did not verify the sale.

1.23

An uninformed seller, like an uninformed buyer, is not knowledgeable of market values. They set a price on their house without first trying to find out what it is actually worth. For example, suppose you verify a sales price of $220,000 on the Fullers' house. The price appears low, so you check with a real estate broker who knows about the sale. They tell you the Fullers had already decided on a listing price and did not list with a realtor. The broker further stated that the house was worth at least $239,000. You've just verified that the Fullers are uninformed sellers.

1. Can you accept this sale as evidence of fair market value? _____ (Yes / No)
2. Why? _____
   _____.

1.24

Which unusual conditions are found in each sale below?

- forced buyer
- forced seller
- uninformed buyer
- uninformed seller

1. A sale by a person who had to settle an estate in a short period of time. _____
2. A sale to a person who paid the asking price because they were new to the area.
   _____
3. A sale by a person who sold below market value because they did not think it was worth more than they asked.
   _____
4. A sale to a person who could not immediately find any other place to live.
   _____

1.25

In your own words, list two conditions under which a sales price could not be accepted as evidence of fair market value.

1. _____
   _____
2. _____
   _____

1.26

A 70-year-old man sells his house to his son. Would you expect the son to pay:

a. The market value?

b. Higher than the market value?

c. Less than the market value?

1.27

A sale between relatives may be an unusual condition that throws a sale out of line with market value. For example, you verify a sale between Smith and Smith. The verified sale price appears to be low. You check with Smith, the buyer. He informs you that he bought the house from his brother. Your verification has confirmed that this sale is not an arm's length market transaction.

Can you accept this sale as evidence of fair market value? _____ (Yes / No)

1.28

A sale between a father-in-law and daughter-in-law is referred to as a sale between _____ _____.

1.29

When the sheriff holds an auction and sells a property for unpaid debts, we call that a forced sale.

You verify the sale of a house to the Greens. The sale price of $195,000 seems low. You go to the county clerk's office and find the sale to be a foreclosure sale, sometimes referred to as a sheriff's sale.

1. This sale (was / was not) a forced sale.
2. Should you accept this sales price as evidence of fair market value? _____ (Yes / No)

1.30

We have just learned another condition under which a sales price could not be accepted as evidence of fair market value. That condition is a _____.

1.31

Using the terms you have learned, name the unusual condition found in each sale below.

1. A father sells property to his daughter and her husband. _____.
2. The county sells property for back taxes. _____.

1.32

In your own words, list four conditions under which a sales price could not be accepted as evidence of fair market value.

1. _____ _____
2. _____ _____
3. _____ _____
4. _____ _____

1.33

A property transaction may include hidden value that is not readily apparent. For example, a sale price of $1,000,000 on a 100-acre farm which is not worth more than $600,000. You call the buyer. The sale included the oil rights on the land purchased by a major oil company. This is an example of hidden value—a use for the property that people generally would not know about.

1. Would $1,000,000 have been a fair price to pay if the property was just going to be used as a farm? _____ (Yes / No)
2. Can you accept the sale price as evidence of fair market value of other farms? _____ (Yes / No)

1.34

Another condition under which a sales price could not be accepted as evidence of fair market value is a property with _____.

1.35

REVIEW

Each sale below has an unusual condition. Choose the condition from the following list.

- Forced buyer or seller
- Uninformed buyer or seller
- A sale between relatives
- A forced sale
- A property with hidden value

1. A person sells their house for less than its current real market value because they need money for their business. _____ _____.

2. A person sells a piece of land to their nephew at half of its value. _____.
3. A buyer pays more for a property than for what it would otherwise sell if offered on the market. They are aware that a new highway will soon be built in front of the property. _____.
4. A person pays more than the current real market value for a house because they do not want to rent and they do not have the time to look for other available houses. _____ _____.
5. A person sells a property for a low price because they are not knowledgeable of local market conditions. _____.
6. A person pays too much for a property because they do not take the time to obtain market information. _____.
7. A property is sold at auction for less than market value to pay back taxes. _____ _____.

1.36

The sale price of a property appears to be too high. You attempt to verify it. There are no apparent unusual conditions. Should you accept this sales price as evidence of fair market value? (Yes / No)

1.37

In your own words, list the conditions under which a sales price could not be accepted as evidence of fair market value.

1. _____
2. _____
3. _____
4. _____
5. _____

Lesson 1: Answers

1.1

Code: 1-0-1

Designation: Residential Property

1.2

Code: 2-0-1

Designation: Commercial Property

1.3

Code: 5-0-0

Designation: Farm and range land

1.4

The same

1.5

County Clerk's

1.6

Grantor and grantee

1.7

The broker

1.8

1. Real estate offices
2. Mortgage loan companies
3. Multiple listing bureaus
4. Local newspapers

1.9

1. Either of these: The seller (the Smiths) or the real estate broker.
2. To make sure you have the correct sales price, the correct date of agreement, and that it was an arm's length transaction. (your own words)

1.10

Checking a second source (your own words)

1.11

You did not confirm the sales price by checking an additional source.

1.12

Check an additional source—because you are not sure.

1.13

Getting the same price from two sources (your own words)

1.14

1. You were confirming the sales price. (your own words)
2. To make sure you had the right sales price. (your own words)

1.15

1. $258,000
2. You confirmed the sales price when you got the same price from two sources. (your own words)

1.16

1. Yes. (It is $30,000 less than the lowest of the other three.)
2. Yes

1.17

Verifying the conditions of a sale

1.18

The Martins were forced buyers.

1.19

Forced

1.20

1. Forced buyer
2. Forced seller

1.21

Buyer……..seller (either order)

1.22

The buyer was an uninformed buyer.

1.23

1. No

2. The Fullers are uninformed sellers.

1.24

1. Forced seller
2. Uninformed buyer
3. Uninformed seller
4. Forced buyer

1.25

1. Forced buyer or seller
2. Uninformed buyer or seller (either order)

1.26

Your answer might have been any one of the three, but lower than the market value is probably what you would expect.

1.27

No

1.28

Relatives

1.29

1. Was
2. No

1.30

Forced sale

1.31

1. A sale between relatives
2. A forced sale

1.32

1. A forced buyer or seller
2. An uninformed buyer or seller
3. A sale between relatives
4. A forced sale

1.33

1. No
2. No

1.34

Hidden value

1.35

1. Forced seller
2. Sale between relatives
3. Property with hidden value
4. Forced buyer
5. Uninformed seller
6. Uninformed buyer
7. Forced sale

1.36

Yes

1.37

1. A forced buyer or seller
2. An uninformed buyer or seller
3. A sale between relatives
4. A forced sale
5. A property with hidden value

Lesson 2: Conducting a Property Appraisal

Introduction

You have learned when to use the sales comparison approach, and how to classify property, obtain market information, verify sales prices, and verify conditions of sales.

Now you are ready to learn the process of how to inspect property and record what you discover. Conducting a property inspection is about the same regardless of the classification of the property. For learning purposes in this course, we will use residential property for our example. But you will be able to apply what you learn to property of any classification, if market data is available.

Highest and Best Use

The highest and best use of a property is defined in the Oregon Administrative Rule (OAR) 150-308.205(A)(e) as:

> "Highest and best use" means the reasonably probable and legal use of vacant land or an improved property that is physically possible, appropriately supported, and financially feasible, and that results in the highest value. —See The Appraisal of Real Estate, 12th edition (2001).

Usually, the current use of an improved property will be its highest and best use. However, the appraiser must determine the highest and best use for each subject property they are to appraise as it defines the appraisal problem so appropriate market data can be collected and analyzed. An incorrect determination of a property's highest and best use will lead to the use of misleading comparable properties in the sales comparison approach to value.

Questions an appraiser might ask to help determine highest and best use could be:

- Who are the potential buyers for this property?
- What are the potential uses of this property?
- Does the improvement contribute value to the site?

An example of a poor comparable property would be the comparison of two single-family residences; one that is a small tract home in an older urban development, and the other a farm property of several acres with farm use outbuildings that is located in the rural countryside.

The Sales Comparison Grid - Exhibit B

Many things affect the value of a property. Most assessor offices have an appraisal data collection form for property inspections. There are many kinds of forms. Most are designed to work with the computer system used by a particular county. To make it easy to learn, we have created a sample form for residential appraisal. The process and methodology you learn here should apply to most systems. The teaching form is titled "Sales Comparison Grid" and is located in the Appendix section of these lessons as Exhibit B.

Notice that the Sales Comparison Grid is divided into two general areas for recording property characteristics: Land and Improvements (buildings). These areas are then further divided into sections where details about the subject property are identified.

2.1

The first area we will cover is land. As you can see from the form, land is described in terms of five major headings.

What are these?

1. _____
2. _____
3. _____
4. _____
5. _____

Subject Property Details—Observing and Recording Land Data

You will learn the steps used to arrive at an estimate of real market value using the sales comparison approach. To help you learn, we are going to use one subject property as an example. Find "Exhibit C – Description of Subject Property" in the Appendix. Our example is a single-

family dwelling located in a suburban area of a large metropolitan city. The house is a two-story wood-frame building of average quality construction and in better than average overall condition.

The next step is to perform a physical inspection of the subject property. Imagine that we drive to this particular property. We will use our blank Sales Comparison Grid form to guide our appraisal inspection process. We first consider the land on which this house is located.

2.2

First, think about the subject's LOCATION. The Sales Comparison Grid has three descriptive items listed in this area for consideration: Area, Values, and Desirability. You want to record the information you observe about Location on the form. In our example, all property characteristic information will be found in Exhibit C.

LOCATION

Area	☐ Urban	☐ Suburban	☐ Rural
Values	☐ Increasing	☐ Stable	☐ Declining
Desirability	☐ High	☐ Average	☐ Low

This is what we see when we inspect the property:

> "It is located in a suburban area near the city of Salem. Values are increasing in the highly desirable neighborhood due to its close proximity to the Willamette River."

Here is the way we would record this information based on our observation. Record it onto the Location section of your form. Your completed form should compare to the one in the Answer Section located at the end of this lesson.

Area: Suburban

Values: Increasing

Desirability: High (due to its close proximity to the Willamette River)

2.3

Now we consider NEIGHBORHOOD CHARACTERISTICS.

NEIGHBORHOOD CHARACTERISTICS

Built-Up	☐ Over 75%	☐ 25-75%	☐ Under 25%
Schools Proximity		☐ Average	☐ Below Average
Public Transportation		☐ Available	☐ Not Available
Conformity	☐ Homogeneous	☐	Non-Homogeneous
Adverse Conditions		☐ No	☐ Yes _____

As we approach the subject, we look at the neighborhood and the other houses in it. We notice that the area is nearly built out. About 90 percent of the area is already developed. Most homes are about 10-20 years old. Our records show that the sales prices for the neighborhood are in the range of $250,000 to $350,000. Most of the homes appear to be in average to above average condition for their age.

We want to observe whether the houses in the area conform to one another; that is, are they all the same general type, **homogeneous** or **non-homogeneous**? Homogeneous is defined as, "A market area where the property types and uses are similar and the inhabitants have compatible cultural, social, and economic interests."

We also note if there are schools within close proximity and if public transportation is available. We observe if there are any **adverse conditions** that may influence market values in the neighborhood. An example of an adverse condition would be a residential property located directly under the flight path of an airport, noise or odor from an adjacent industrial plant, etc.

Record the information you observe about Neighborhood Characteristics, using information from Exhibit C, on the Sales Comparison Grid. Compare your completed form with the one found in the Answer Section.

2.4

The third consideration for land characteristics is ZONING.

ZONING

Classification	_____		
Compliance	☐ Legal	☐ Illegal	☐ Legal Nonconforming

By checking with the city planning office, you found that the area is zoned R-1, single-family residence only. This is the primary use and there appears to be no exceptions in the neighborhood. All of the houses conform to the current zoning regulations. Make the appropriate notations on your form and compare it with the one in the Answer Section.

2.5

The next areas of consideration are LAND IMPROVEMENTS AND SERVICES.

LAND IMPROVEMENTS AND SERVICES

Road/Street	☐ Public	☐ Private	☐ None
	☐ Paved	☐ Gravel	☐ Dirt
Sidewalks/curbs		☐ Yes	☐ No
Utilities Typical for Market Area		☐ Yes	☐ No
	☐ Public	☐ Sewer	☐ Power & Water
	☐ Private	☐ Septic	☐ Well/Spring
			☐ Community

Characteristics which need to be considered in this section are: types of roads/streets, if there are sidewalks and curbs, information about the utilities to the subject property, and if the utilities are typical for the market area.

Information in Exhibit C reports that the subject property has access provided by a paved public street and has curbs and sidewalks. Utilities appear to be typical for the market area with public sewer, power, telephone, cable, and water supplied to the property.

Use the above information to complete the LAND IMPROVEMENTS AND SERVICES section of the appraisal form. Compare your form with the one in the Answer Section.

2.6

Having completed previous sections of the form, you now consider the LOT FEATURES of the subject property.

LOT FEATURES

Size	_____	Base Value	$_____	
Landscaping	Good / Avg / Fair	Base Value	$_____	
Topography	☐ Level	☐ Sloping	☐ Steep	
View	☐ Excellent	☐ Good	☐ Limited	☐ None

In this section we will note specific characteristics of the site such as: lot size, landscaping, topography, and view. The subject property's lot size is 80x100 feet, rectangular in shape, and level per the information in Exhibit C. Landscaping is considered good and of professional quality. The lot has a limited view.

Enter this information on your form and check your form against the one found in the Answer Section. At this time, do not be concerned with the "Base Value $ _____" areas on the form. We will be working with the value amounts later in Lesson 3.

Our inspection of the neighborhood and lot is finished. This section of the form should be as complete as possible. Next, continue your property inspection by observing and recording building characteristics.

Observing and Recording Improvement (Building) Characteristics

2.7

The Sales Comparison Grid has six headings where observations of building characteristics can be recorded. What are the six headings on the form?

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

By further examination of Exhibit C, you count 11 rooms including four bedrooms, two full bathrooms and a half bath, a kitchen, living room, family room and dining room. You probably noticed that the form has a **Year Built** field and an **Effective Year Built** field. What does an Effective Year Built mean?

Effective Year Built

2.8

When you state that a man is 35 years old, you are generally referring to his actual age.

A house was built eight years ago. Eight years is the _____ age of the house.

2.9

If you are over 35, and you can still run as well as a 22 year old, your effective or functional age for running is 22.

The saying, "A man is as old as he feels," refers to _____(actual / effective) age.

2.10

1. The number of years a house has been built is its _____(actual / effective) age.
2. The condition and utility of a house is its _____(actual / effective) age.

For the subject property described in Exhibit C, the actual year built is 1997, but because it has been maintained in better than average overall condition, the market would most likely recognize it as similar in value to a comparable house that was built in 2002. Therefore, the Effective Year Built is 2002, or effectively five years newer than its actual age.

Note: Effective age is derived from market studies and is an advanced appraisal subject not covered by this training material.

2.11

The first heading on the Improvements side of the Sales Comparison Grid is titled GENERAL DESCRIPTION and is used to record data about the general overall maintenance and construction quality of the structure and details square footage information.

GENERAL DESCRIPTION

Single Family Multi-Family: 2 / 3 / 4

Year Built _____ Effective Year Built _____

General Construction Quality ☐ Good ☐ Average ☐ Fair

General Overall Maintenance ☐ Good ☐ Average ☐ Def. Maint.

Total Finished Living Area _____ sq. ft.

Identify the remaining characteristics in the GENERAL DESCRIPTION section of the form using information from Exhibit C and compare your answer with the completed form shown in the Answer Section.

2.12

The next step in the inspection is an examination of the EXTERIOR of the structure. Data will be collected concerning foundation type, exterior wall materials, roof style, and overall quality and condition of the windows, rating them as good, average, or fair.

EXTERIOR

Foundation ☐ Conc/Block ☐ Slab ☐ Crawl Space

Exterior Walls _____

Roof ☐ Gable ☐ Hip ☐ _____

Windows ☐ Good ☐ Average ☐ Fair

Note from Exhibit C that the foundation of the subject house is continuous concrete, and the exterior walls are a wood composite with some stone trim. The roof style is gable and the windows are of average quality per class of the house. Complete the form using this information.

2.13

You have observed the previously discussed building exterior characteristics while approaching the house. Now it is time to inspect the INTERIOR of the subject property.

INTERIOR

Bedrooms # _____

Bathrooms # _____Full _____Half Total $_____

Heating ☐ FA ☐ A/C ☐ Wall ☐ Elec ☐ Gas

Electrical ☐ Good ☐ Average ☐ Fair

Fireplace(s) # _____ Type _____

Exterior Brick Chimney Y / N ☐ 1-Story ☐ 2-Story

Characteristics of particular interest to appraisers will be the number of bedrooms, bathrooms, and type of heating and air conditioning (HVAC). Note if the electric fixtures are of good quality and enough outlets are provided. Are there alternate heating sources such as wood or gas fireplaces, pellet stoves, and is there an exterior brick chimney?

Record all the pertinent information on the form. Again, do not be concerned with the "Total $ __" area for the Bathrooms field as we will be working with the value amounts in Lesson 3. Compare your completed form with the one in the Answer Section.

2.14

The last three headings in the Subject Property Improvement Characteristics section are: KITCHEN, YARD IMPROVEMENTS, and

GARAGE/PARKING. Kitchens have a higher cost per square foot than the remaining rooms of the house due to the cost of cabinets, countertops, and appliances. These features are usually of high importance to potential buyers when considering the purchase of a residential property and weigh heavily toward the overall quality of construction determination by the appraiser. During an inspection of the subject property, appraisers should pay close attention to the quality and condition of the kitchen's features.

KITCHEN

Condition	☐ Good	☐ Average	☐ Fair
Appliances	☐ Good	☐ Average	☐ Fair

The appraiser considers the overall kitchen size, quality, condition and design. Note the quality and condition of the kitchen appliances as well. Rate the kitchen features on the Sales Comparison Grid as good, average, or fair in comparison to other properties of similar property class and actual age. Exhibit C reports that the subject property's kitchen and built-in appliances are average per class. Complete this section of the form.

2.15

For purposes of this lesson, YARD IMPROVEMENTS have been grouped together into a single category and rated as good, average, or fair.

YARD IMPROVEMENTS

☐ Good ☐ Average ☐ Fair

Items considered in this section would be exterior improvements to the house such as decks, patios, driveways, and sheds. During an actual appraisal utilizing the sales comparison approach, an appraiser would most likely provide a more detailed list of objects. Larger improvements such as swimming pools, tennis courts, and pole buildings would particularly be compared as individual items rather than included in an overall general rating.

Exhibit C states that the Yard Improvements for our subject property are rated average. Mark your form accordingly.

2.16

The last section of common units of comparison on the Sales Comparison Grid is GARAGE/PARKING.

GARAGE/PARKING ☐ None

Attached / Detached / Bsmt:	# Cars	☐ Oversized
Carport:	# Cars	
RV pad:	☐ Yes	

The appraiser documents garage details to note if garages are attached or detached, the number of cars the structure was built to store, and note if the garage is oversized so as to provide space for a small shop or storage area. The form also provides an area to itemize carports and recreational vehicle storage space.

After you have added the information regarding garage and parking details from Exhibit C to the Sales Comparison Grid, your form should be complete with all descriptive attributes of the subject property properly recorded. You now have a listing of pertinent land and building property characteristics recently sold properties need in order to be considered as comparable properties in the sales comparison process.

The Comparison Process

We just completed a survey of the subject property's characteristics using the Sales Comparison Grid for both **qualitative** and **quantitative** data. The qualitative data is based on subjective measures, where the data is usually described in the form of words. Example categories we observed that would be qualitative are the desirability of the location and description of view.

Quantitative analysis is more objective and is based on interval data that can be measured and compared with much more precision, usually in the form of numbers. The adjustment process of the sale prices of comparable properties in the sales comparison approach can include data analysis techniques such as paired data or "matched pairs" analysis, statistical analysis, graphic analysis, trend analysis, or cost analysis such as cost-to-cure and depreciated cost.

An example of the quantitative data analysis characteristics would be living area square footage and numbers of bedrooms and bathrooms. Qualitative data must also be converted into a

quantitative form to properly adjust for such items as view or lack of it, location, etc. Generally, this is accomplished by using matched pairs techniques.

Units of Comparison

In order to evaluate whether the comparable properties qualify as good comps, you need to evaluate them using like units of comparison. Vacant land can be valued using acreage, square footage, or front foot factors. Residential improved properties can be stratified into common units such as square footage of living area, number of rooms, number of bedrooms, or effective age. Apartment houses can be compared using the number of units, rooms, size of building, and gross income multipliers. Other properties such as some commercial and industrial uses can be compared by either gross or net leaseable square footage of the improvement.

Final Selection of Comparables

The subject property and sold properties are analyzed for comparability considering factors and trends that affect value. You can select comparables on the basis of reason, whim, or impulse. We think reason should be your choice. Fortunately, we have some guides for selecting comparables.

Let's review the **four conditions** a comparable must meet:

1. It must be reasonably similar.
2. It must reflect the current market.
3. The sales price must be verified.
4. The conditions of the sale must be verified.

2.17

Answer the following questions.

1. I know how to verify a sale price. _____. (Yes / No)
2. I know how to verify the conditions of a sale. _____. (Yes / no)

2.18

The last three conditions a comp must meet are: reflecting current market, having a verified price, and verifying conditions of a sale.

What is the first condition a comp must meet? (Your own words) _____
_____.

2.19

The best comparable is one that is _____ (most / least) like the subject property.

2.20

Suppose you have eight possible comparables. Three comparables are usually a sufficient number of properties for an appraisal.

How will you choose the three comparables you will use in the appraisal from among the eight possibilities? _____
_____.

2.21

Suppose your subject property has the following description:

Built 7 years ago, has 5 rooms, 1 full bath, 1 half bath, average quality. There are five properties that have been recently sold. These five properties are all similar to the subject property except for the differences listed below:

Sale #1—effective age about 25 years

Sale #2—one bathroom only

Sale #3—in a slightly better neighborhood

Sale #4—needs paint

Sale #5—has seven rooms and one bath

Which sales should be dropped from consideration as comps? Why? _____
_____
_____

2.22

How many comparables should be used in making an appraisal? Suppose there is only one comparable which sold for $280,000. How certain are we that this represents the going price for properties like this?

a. Pretty certain

b. Not very certain

c. Very certain

2.23

Suppose there are two recent sales of properties that can potentially be used as comparables. One sold for $280,000. The other sold for $320,000. How can you decide which of these two sales prices is the one that is nearer the market value for such properties? (Your own words) _____
_____
_____
_____.

2.24

Suppose there are three good comparables: $280,000, $320,000, $300,000. If we determine the average of these prices is the closest representation of the market value for such properties, what would be our estimate of value for our subject property?

_____

In the above example, $280,000 and $320,000 are the lower limit and upper limit of value for the property. This concept is known as bracketing. If all sales are comparable to the subject, consider averaging if sales are similar in time. If not, select the most recent sale and the one most comparable to the subject to place the most weight on.

2.25

We recommend that a minimum of three comparables should be selected. If there are three or more comparables this is easy. If there are not, we use what we have. In other words, if you can find only two comparables, you should

a. Use them.

b. Keep looking for a third comparable.

c. Give up the cost comparison approach.

Finding the Probable Price Range

After you have selected your comparables, you can estimate the probable range for the value of the subject property. The range is bracketed by the lowest and highest price comparable.

2.26

Suppose you have four comparables with these selling prices: $340,000, $320,800, $360,000, $380,000. The probable value of the subject property is between $_____ (low) and $_____(high).

2.27

What is the probable range from the following comparable prices?

$180,000, $200,000, $l90,000, $185,500

_____ to _____

You begin your estimate of value for the subject property by assuming that it will fall within the range of the comparables. It is probably worth as much as the lowest priced comparable, but is probably not worth more than the highest priced comparable.

In the next lesson, you will learn how to decide whether the subject property does fall within the range of the comparables. You will also learn how to conclude to a fair market value estimate for the subject property and how to allocate the final value estimate between land and building (improvement) values.

Lesson 2: Answers

2.1

1. Location
2. Neighborhood Characteristics
3. Zoning
4. Improvements and Services
5. Lot Features

2.2

LOCATION

Area	☐ Urban	☑ Suburban	☐ Rural
Values	☑ Increasing	☐ Stable	☐ Declining
Desirability	☑ High	☐ Average	☐ Low

2.3

NEIGHBORHOOD CHARACTERISTICS

Built-Up	☑ Over 75%	☐ 25-75%	☐ Under 25%
Schools Proximity	☑ Average	☐ Below Average	
Public Transportation	☑ Available	☐ Not Available	
Conformity	☑ Homogeneous	☐ Non-Homogeneous	
Adverse Conditions	☑ No	☐ Yes _____	

2.4

ZONING

Classification *R-1*

Compliance ☑ Legal ☐ Illegal ☐ Legal Nonconforming

2.5

LAND IMPROVEMENTS AND SERVICES

Road/Street	☑ Public	☐ Private	☐ None	
	☑ Paved	☐ Gravel	☐ Dirt	
Sidewalks/curbs		☑ Yes	☐ No	
Utilities Typical for Market Area			☑ Yes	☐ No
	☑ Public	☑ Sewer	☑ Power & Water	
	☐ Private	☐ Septic	☐ Well/Spring	
			☐ Community	

2.6

LOT FEATURES

Size	8,000 sq. ft.		Base Value _____	
Landscaping	(Good) Avg / Fair		Base Value _____	
Topography	☑ Level	☐ Sloping	☐ Steep	
View	☐ Excellent	☐ Good	☑ Limited	☐ None

2.7

1. General Description
2. Exterior
3. Interior
4. Kitchen
5. Yard Improvements
6. Garage/Parking

2.8

Actual

2.9

Effective

2.10

1. Actual
2. Effective

2.11

GENERAL DESCRIPTION

(Single Family) Multi-Family: 2 / 3 / 4

Year Built ***1997*** Effective Year Built ***2002***

General Construction Quality	☐ Good	☑ Average	☐ Fair
General Overall Maintenance	☑ Good	☐ Average	☐ Def. Maint.

Total Finished Living Area ***2,164*** sq. ft.

2.12

EXTERIOR

Foundation	☑ Conc/Block	☐ Slab	☐ Crawl Space
Exterior Walls	***Wood / Hardiplank***		
Roof	☑ Gable	☐ Hip	☐ _____
Windows	☐ Good	☑ Average	☐ Fair

2.13

INTERIOR

Bedrooms # 4

Bathrooms # 2 Full 1 Half Total

Heating ☑ FA ☑ H/C ☐ Wall ☐ Elec ☑ Gas

Electrical ☐ Good ☑ Average ☐ Fair

Fireplace(s) # 1 Type Gas

Exterior Brick Chimney Y (N) ☐ 1-Story ☐ 2-Story

2.14

KITCHEN

Condition ☐ Good ☑ Average ☐ Fair

Appliances ☐ Good ☑ Average ☐ Fair

2.15

YARD IMPROVEMENTS

☐ Good ☑ Average ☐ Fair

2.16

GARAGE/PARKING ☐ None

(Attached) / Detached / Bsmt: # Cars 2 ☐ Oversized

Carport: # Cars

RV pad: ☐ Yes

2.17

1. Yes—If your answer is no, review Lesson 1, Verifying Sales Price (Problems 1.7–1.15).
2. Yes—If your answer is no, review Lesson 1, Verifying Conditions of a Sale (Problems 1.16–1.37).

2.18

It must be similar to the subject property. (Your own words)

2.19

Most

2.20

Use the comparables that are most like the subject property. (Your own words)

2.21

Sale #1—too great difference of age

Sale #5—not comparable size or facilities (7 rooms vs. 5 rooms)

2.22

b. Not very certain. (You cannot be very certain with only one sale, but may be the only data available.)

2.23

Without further information regarding these sales, there is no really good way to make such a decision. (Your own words)

However, if the sales are comparable, they can be used to bracket a range of value.

2.24

Most people would average the three sales prices to arrive at an estimated market value of $300,000 for these properties, if they are similar. If not, it would be better to place most weight on the sale most comparable to the subject property.

2.25

a. Use them (They are the best data available.)

2.26

$320,800 . . . $380,000

2.27

$180,000 to $200,000

Introduction to Lesson 3

Now that you have learned how to inspect a property to gather property characteristic data, we will demonstrate the process of comparing the subject property to properties that have recently sold and how to arrive at a final opinion of value estimate.

In this lesson, you will learn to make market-derived adjustments to comparable sales to account for the differences between the subject property and the comparable sales. The adjustments can include differences due to time of sale, location or lot feature, physical characteristics of the improvements, or any other adjustment recognized by the local market.

Important note: the adjustments, however the value of the difference is expressed, are always applied to the sales prices of the comparable properties. What you are doing, in effect, is adjusting the sales price in a step-by-step process so that the comparable properties and the subject property can be evaluated as similar properties with the differences reduced to a minimal consideration.

This is accomplished by adjusting the sales price downward by a market-derived value or percentage if the comparable is superior in some respect to the subject. And, if the comparable is inferior in some element of comparison to the subject, then the sales price is adjusted upward. Never adjust the subject property in the sales comparison approach.

- If the Comp is **inferior** to the Subject, adjust the Comp **upward**.
- If the Comp is **superior** to the Subject, adjust the Comp **downward**.
- If the Comp is **equal** to the Subject, make **no adjustment**.

In this lesson, as in those previously studied, residential properties are used for demonstration purposes. The same methods can be used for any type of property for which comparable sales can be found.

The physical descriptions of our subject property and three comparable properties to be used in our lesson are located in the Appendix as:

- Exhibit C – Description of Subject
- Exhibit D - Description of Comparable #1
- Exhibit E – Description of Comparable #2
- Exhibit F – Description of Comparable #3

You will be referring to these descriptions to complete the Sales Comparison Grid form.

Review the descriptions for the subject property and all three comparable properties. You must be able to compare and contrast each element of comparison with the subject property. We will take you through the process of completing the Sales Comparison Grid step-by-step, beginning with a "field inspection" of the properties.

Lesson 3: The Final Value Estimate

Performing a Field Inspection of the Properties

Even though you may be familiar with the neighborhood where the subject and the comparable properties are located, the information in your office records may not be complete or up-to-date. Relying on records is no substitute for a physical inspection of the subject as well as each comparable sale.

3.1

When you conduct a field inspection, take the Sales Comparison Grid form (Exhibit B) with you. The form provides a pattern to follow for inspecting and recording appropriate property characteristics for both the subject and the comparable sales.

It is _____(easier / more difficult) to work if you have a pattern to follow.

When appraising a subject property using the sales comparison approach, the first step is to inspect the subject so that you are thoroughly aware of all its features. Conduct an on-site inspection of the property and become familiar with the neighborhood (market) where the subject is located. Use a blank grid form to collect and record the subject's property characteristics.

3.2

Observe each comparable's location and neighborhood. If a comparable is in a neighborhood you visit often, you will already have some familiarity with it. If you are not well acquainted with these areas, the best way to observe the neighborhood is to:

a. drive directly to the comparable

b. drive around the neighborhood before going to the comparable

c. ask someone who lives in the area

3.3

Should you go into each comparable and inspect it? This depends on what you know about each property already. The less you know about the interior of a comparable, the _____ (more / less) important it is that you conduct an interior inspection.

Completing the Sales Comparison Grid Form—Sales Data

3.4

We will now continue to fill in all the property characteristic data on the Sales Comparison Grid form. Start by reviewing the **Sales Price** and **Sales Date** data found at the end of each comparable property description.

Rating: Superior (S), Similar (=), Inferior (I)

Adjust comparable property to the subject property.

Comp # 1		Comp # 2		Comp # 3	
Sales Price:		Sales Price:		Sales Price:	
Sales Date:		Sales Date:		Sales Date:	

Fill in that information in the proper location on the form for Comp #1, Comp #2, and Comp #3. When you have finished, compare your answer to the completed section of the form in the Answer Section at the end of this lesson.

Adjusting the Sales Prices for Time

The appraisal principle of change deals with the transitional nature of property. Change is reflected in the market as appreciation or depreciation in property value. If all the comparable properties sold recently, perhaps within the past two weeks, then you most likely would not need to take into consideration any changes in value due to time.

However, the comparable properties we have selected for use in our sales comparison approach project sold during various periods of time. Comp #1 sold three months ago, Comp #2 sold four months ago, and Comp #3 sold two months ago.

If you refer to Exhibit G—Adjustment Values for Demonstration Project, you notice our time trend analysis for this neighborhood indicates an adjustment of one percent per month is required to bring a sales price current to today's market. During an actual appraisal situation, you

must perform a market change (time) analysis from which the correct adjustment for change is derived for the property you are appraising.

3.5

The market for the subject is _____ (appreciating / depreciating) according to the information stated in Exhibit G.

3.6

Now indicate the PERCENT ADJUSTMENT FOR CHANGES OVER TIME to each Sales Price for each comparable property. What percentage does the Sales Price need to be adjusted for:

Comp #1? _____ (2% / 3% / 4%)

Comp #2? _____ (2% / 3% / 4%)

Comp #3? _____ (2% / 3% / 4%)

3.7

The Sales Price of Comp #1 must be adjusted for changes over time by multiplying the value by _____ (1.03 / 1.04 / 1.02) to arrive at a SALES PRICE ADJUSTED FOR CHANGE.

3.8

Multiply each Sales Price by the appropriate adjustment factor for changes over time to arrive at the SALES PRICE ADJUSTED FOR CHANGE. What are the adjusted sales prices for each of our comparable properties?

Comp #1 $ _____

Comp #2 $ _____

Comp #3 $ _____

Completing the Sales Comparison Grid Form—Description Column

Continue to complete the form systematically for all three comparable properties by filling in the information in the Description column for both the Land and Improvements property characteristics.

Reading through the description of Comp #1 (Exhibit D), the Location section states,

"The property is a single family dwelling of average quality construction and shows some deferred maintenance for its age. It is located in a suburban area near the city of Salem. Values are increasing in the highly desirable neighborhood due to its close proximity to the Willamette River."

From this information we conclude that Comp #1 is located in a suburban area, values are increasing, and desirability is high. Following is the completed portion of the form:

LAND				Comp # 1	
				Sales Price:	$ 286,000
				Sales Date:	3 mo. ago
PERCENT ADJUSTMENT FOR CHANGES OVER TIME					3%
SALES PRICE ADJUSTED FOR CHANGE					$ 294,580
LOCATION				Description	Rating Adjustment
Area	☐ Urban	☑ Suburban	☐ Rural	Suburb	
Values	☑ Increasing	☐ Stable	☐ Declining	Incr	
Desirability	☑ High	☐ Average	☐ Low	High	

3.9

Next, review the LOCATION information in Exhibit E for Comp #2 and Exhibit F for Comp #3. Complete the Description columns in the LOCATION section of your form for Values and Desirability. (We will complete the Rating and Adjustment columns later in this lesson.) Compare your form to the one in the Answer Section.

3.10

Now work through the NEIGHBORHOOD CHARACTERISTICS, ZONING, and LAND IMPROVEMENTS AND SERVICES sections of the form in the same manner as you did above, filling in data in the Description columns. When you are finished, compare your form with the one in the Answer Section.

3.11

The LOT FEATURES section of the Land side of our example form compares the properties by Size, Landscaping, Topography, and View. We will work through Comp #1 together.

The size of the subject property as stated in Exhibit C is 80 x 100 feet or 8,000 square feet. What is the size in square feet of Comp #1 in Exhibit D? _____ sq. ft. (7,000 / 8,000 / 9,000)

3.12

The description of Landscaping for Comp #1 states, "Landscaping is considered fair with most of the lot covered by a lawn and a few shrubs."

Therefore, the Description for Landscaping in the Comp #1 column will be _____. (Good / Avg / Fair)

3.13

The Lot Features of Comp #1 states, "The property is a level rectangular lot..." Therefore, the Topography of Comp #1 is _____. (Level / Sloping / Steep)

Factors and trends that typically affect residential market values include any potential benefit to the residential site if it has a territorial, water, or mountain view, as these are generally more desirable to the market. The influence of supply and demand of these features also has an influence on the real market value of the property. Therefore, to derive a value adjustment that an amenity such as view may add to a property, use market-derived data and paired data analysis (matched-pairs).

The value of a particular property characteristic can be concluded by using the paired data analysis technique. This is a quantitative analysis method using sales or rental data on nearly identical properties. Ideally, the sold properties are the same with the exception of one sold property has a specific attribute and the other sold property does not.

This is a more accurate and preferred method of making adjustments for differences in features if enough comparable sales are available. This technique may be impractical when only a narrow sampling of sufficiently similar properties is available for analysis. If no matching pairs are available, an adjustment using the depreciated replacement cost is the next best method.

3.14

Although our subject property and Comp #1 are located near a major river, our property description for Comp #1 indicates that there is no view of the river. Therefore, we will mark the Description column for View as _____. (Excellent / Good / Limited / None)

3.15

We are now finished with the Description column for the land property characteristics for Comp #1. Compare your partially completed Sales Comparison Grid form with the one in the Answer Section.

3.16

Next, complete the LOT FEATURES section of the Sales Comparison Grid for Comp #2 and Comp #3 using the property descriptions found in Exhibits E and F. When you are finished, compare your form with the one found in the Answer Section.

Completing the Sales Comparison Grid Form—Rating Column

Before we continue with the Improvement Characteristics section of our form, we will learn how to complete the Rating column and the Adjustment column on the Land side of the form. Once the Land section is complete, we will turn to the comparison of the comparable properties' improvements with the subject property.

3.17

When you have a subject property and a comparable that are almost identical, the value of the comparable will most likely be:

a. about the same as the value of the subject property

b. much more than the value of the subject property

c. much less than the value of the subject property

d. none of the above

3.18

Suppose a subject property and a possible comparable are nearly identical. You discover that the possible comparable property has a desirable feature that the subject property does not have. This most probably means that the selling price of the comparable is _____(higher / lower) than the market value of the subject property.

3.19

Suppose you have a possible comparable that is the same as the subject property except that the comparable has a finished basement valued at $43,000.

You can derive a closer estimate of the value of the subject property by:

a. adding $43,000 to the sale price of the comparable

b. subtracting $43,000 from the sale price of the comparable

c. using the comparable sale price as is

d. none of the above

3.20

Suppose a possible comparable sale has features that make it more valuable than a subject property. You can adjust the sale price of the comparable to a more accurate figure by:

a. adding the value of the features to the sale price of the possible comparable

b. ignoring the value of the feature

c. subtracting the value of the feature from the sale price of the possible comparable

d. adding the value of the feature to the price of the subject property

A possible comparable sold for $228,000. It is very similar to the subject property. However, the comparable is air conditioned and the subject property is not. The market contribution may equal or be greater or less than the cost of adding air conditioning.

You determine that it will cost $6,000 to add air conditioning to the subject property. Therefore, using the technique of paired data analysis, you conclude that the sales price of the comparable property was $6,000 more than if it had not had air conditioning.

3.21

A good adjusted sales price for the possible comparable is:

a. $222,000

b. $230,000

c. $228,000

d. none of the above

3.22

Suppose a possible comparable lacks one of the desirable features of the subject property. This means that the sale price of the comparable is most probably _____ (higher / lower) than the market value of the subject property.

3.23

What if your subject has one bathroom more than a possible comparable property? The properties are very similar in all other ways. You could get an adjusted sale price more representative of the market value for the subject property by:

a. adding the value of an extra bath to the price of the subject property

b. subtracting the depreciated value of an extra bath from the sale price of the comparable

c. adding the market value of an extra bath to the sale price of the comparable

d. subtracting the value of an extra bath from the sale price of the comparable

3.24

Assume the subject property has one feature that makes it more valuable than the possible comparable. You should adjust by:

a. adding the market value of the subject property feature to the sales price of the comparable

b. subtracting the market value of the subject property feature from the sales price of the comparable

c. subtracting the market value of the subject property feature from the price of the subject property

d. adding the market value of the subject property feature to the price of the subject property

3.25

The sales price of the _____ (subject property / possible comparable) is adjusted to make the property usable as a comparable.

3.26

If the subject property has desirable features that a possible comparable lacks, you adjust the sales price of the comparable by _____ (adding / subtracting) the value of the desirable features.

3.27

If the possible comparable has features that make it more valuable than the subject property, you get the adjusted sales price by _____ (adding / subtracting) the market value of the features (to / from) the sale price of the possible comparable.

Look at your adjustments this way. The subject property is always 100 percent. For your comparable to indicate the value of the subject, you would have to do the following:

Comp. is better than subject	–	Subtract	to obtain an indication of the subject's value
Comp. is poorer than subject	+	Add	
Comp. is equal to the subject	=	No adjustment	

Our Sales Comparison Grid form uses a qualitative comparison rating system of Superior, Similar, or Inferior. Note that suggested symbols for each rating are on the form.

Superior is 'S'

Similar is '='

Inferior is 'I'

These types of comparisons are referred to as **qualitative adjustments**. *The Dictionary of Real Estate Appraisal* (Fourth Ed.) defines qualitative data as, "Data that is based on subjective measures, where the data tends to fall into nominal or ordinal categories; usually represented in the form of words. An amenity such as view may indeed affect market value but is nevertheless difficult to measure and quantify."

Later you will learn how to develop a quantitative (or dollar) adjustment which recognizes the market contribution of the qualitative adjustment.

In the LOCATION section of the form, you observe that the information in the Description column for Comp #1 is listed as follows:

Area is Suburban

Values are Increasing

Desirability is High

3.28

How do the features of the sold properties compare with the subject property? If the features of Comp #1 are superior to the subject property, put an S in the Rating column. If they are similar, put an equal sign in the column, and if they are inferior, put an I in the column for each feature. Compare your form to the one in the Answer Section.

3.29

Continue to complete the Land portion of the Sales Comparison Grid form for Comp #1, filling in the Rating column for the:

- NEIGHBORHOOD CHARACTERISTICS,
- ZONING,
- LAND IMPROVEMENTS AND SERVICES, and
- LOT FEATURES

When you have finished capturing the information for Comp #1, complete the Rating columns for Land Characteristics for Comp #2 and Comp #3. Check your form with the completed one in the Answer Section.

The judgmental decisions you just made are the kind appraisers make all the time. You are learning there is a **systematic basis** for making judgments. When you determine that a comparable is similar, inferior, or superior to the subject property, you need to be able to explain your conclusions.

3.30

As an appraiser, you will often be called upon to explain why you made the judgment you did. Which of the following provides a sound basis for your decisions?

a. "I don't know. It just seemed the thing to do."

b. "As an appraiser, it is my job to know; just don't ask me to explain it."

c. "I have the records right here to show the basis of my judgment."

Completing the Sales Comparison Grid Form—Adjustment Column

Take out "Exhibit G—Adjustment Values for Demonstration Project." This is a listing of invented adjustments based on costs for various features. (Actual costs for your area are derived from market analysis of matched pairs, cost factor services, contractors' costs, real estate brokers, etc.) Developing value adjustment factors that convert qualitative observations to dollar adjustments is referred to as **Quantitative Analysis**. For demonstration purposes, use the values in Exhibit G to adjust the comparable properties' sales prices to the subject property.

Remember, the comparable properties similar to the subject property, are rated "equal." You note that all of the Rating columns for Comp #1, Comp #2, and Comp #3 for LOCATION, NEIGHBORHOOD CHARACTERISTICS, ZONING, and LAND IMPROVEMENTS AND SERVICES are "equal." Therefore, all of these characteristics need no adjustment to the comparables' sales prices. The value adjustment for each element of comparison rated as "equal" will be "0."

However, in the LOT FEATURES section, some characteristics are rated inferior (I) or superior (S). We will use the values from Exhibit G to make our adjustments for differences in property characteristics.

3.31

The size of the subject property is 8,000 square feet. Once again, what is the lot size of Comp #1?

_____ sq. ft. (7,000 / 8,000 / 9,000)

3.32

Since Comp #1 is rated similar to the subject property for Size, no adjustment is needed. What value should be entered in the Adjustment column for Comp #1 for size?

_____ ($0 / +$5,000 / -$5,000)

3.33

We will next consider a feature that requires an adjustment to the comparable property. According to the description of Comp #2 (Exhibit E), the size of the lot is 78 x 90 feet or 7,020 square feet. Since the size of the subject property is 8,000 square feet, how is the size of Comp #2 rated in comparison to the subject? _____ (superior / similar / inferior)

3.34

How is the adjustment calculated for the difference in size? Look at Exhibit G, the Site Base Value section. You will note that three lot sizes have been valued in the right hand column.

Site Base Value	Adjustment/Value
(Based on size, includes system development charges)	
9,000 sq. ft.	$120,000
8,000 sq. ft.	$115,000
7,000 sq. ft.	$110,000

The value for our subject property, a lot that is 8,000 square feet in area, is $115,000. Enter that value in the Subject Property Characteristics section for Land Size: **Base Value**. According to our land schedule above, the value of a 7,000 square foot lot, such as Comp #2 (rounded), is $110,000. What is the difference in value between a lot that is 8,000 square feet and a lot that is 7,000 square feet? _____ ($10,000 / $5,000 / No difference)

This is the most important concept you will need to know when using the sales comparison approach: "How is the sales price of the comparable property adjusted to the subject?"

3.35

Comp #2 is smaller in size and, therefore is inferior when compared to the subject property. Since we adjust the comparable to the subject, what is the value adjustment we need to enter in the Adjustment column for size, for Comp #2? _____ (+$5,000 / -$5,000 / $0)

3.36

What is the size of the lot for Comp #3? _____ sq. ft. (7,000 / 8,000 / 9,000)

3.37

What is the value adjustment for size for Comp #3? _____ (+$5,000 / -$5,000 / $0)

3.38

Once you have completed the Adjustment columns for Size, the next element of comparison on our Sales Comparison Grid is Landscaping. Read through Exhibit G and enter the Base Value for Landscaping for the subject property. _____ ($3,000 / $5,000 / $7,000)

3.39

Using the descriptions information pertaining to the quality of landscaping for each property for Comp #1, Comp #2, and Comp #3 (Exhibits D, E, and F), and the Landscaping schedule in Exhibit G, determine a landscaping base value for each property. Calculate the adjustment for each comparable, if any, and enter the adjustment into the appropriate column on the Sales Comparison Grid form. Check your answer with the one in the Answer Section.

3.40

Continue completing the LOT FEATURES section of the Sales Comparison Grid form for Comps #1, #2, and #3. For characteristics that are inferior or superior to the subject, enter a value and indicate whether it should be added or subtracted from the sales price. Compare your form with the completed one in the Answer Section.

3.41

Notice the line labeled NET ADJUSTMENT FOR LAND at the bottom of each comparable Adjustment column. Total the adjustment column for each comparable property and enter the total adjustment for the land characteristics under each comparable. Your totals should match those from the form shown in the Answer Section.

How confident do you feel about completing the Improvement characteristics portion of the Sales Comparison Grid form on your own? Use the same techniques for making adjustments on the building side of the form as you did for the land information side.

Remember, if the comparable property has a similar characteristic to the subject property, there will be $0 adjustment for that element of comparison. Adjustment amounts for characteristics that are either superior or inferior to the subject property are not the total value associated with that characteristic, but the value **difference** associated with the comparison of each item.

3.42

Complete the form through the GARAGE/ PARKING section. Compare your completed form to the one in the Answer Section at the end of this lesson.

Completing the Sales Comparison Grid Form—Final Adjusted Sales Price

Now that you have determined what characteristics require adjustments and a value amount for each one, you are ready to total the columns and determine a Final Adjusted Sales Price for each comparable property.

3.43

Total each comparable adjustment column on the improvement side of the Sales Comparison Grid form. Enter the amount for each comp at the end of the column in the space called, NET ADJUSTMENT FOR IMPROVEMENTS.

What is the total NET ADJUSTMENT FOR IMPROVEMENTS for:

Comp #1? $ _____

Comp #2? $ _____

Comp #3? $ _____

Bring forward the NET ADJUSTMENT FOR LAND that you calculated at the bottom of each comparable property's land characteristics adjustment column. Enter each net amount of adjustment in the appropriate place on the Sales Comparison Grid form.

3.44

Calculate the FINAL ADJUSTED SALES PRICE for each comparable property by taking the **Sales Price Adjusted for Change** for each comp and add or subtract the net adjustment values for the improvements and land characteristics in each column. What is the FINAL ADJUSTED SALES PRICE for:

Comp #1? $ _____

Comp #2? $ _____

Comp #3? $ _____

The result indicates how the sales price of each sold property that has been adjusted for the differences now compares to the subject property's market value. The adjusted sales prices of the comparables and the market value of the subject property can be measured against each other as equally as possible.

3.45

Now round each Final Adjusted Sales Price to the nearest $100. What is the total FINAL ADJUSTED SALES PRICE (ROUNDED) for:

Comp #1? $ _____

Comp #2? $ _____

Comp #3? $ _____

Narrowing the Probable Value Range—Reconciliation

If the adjusted sales prices of the comparable properties are similar, the appraiser has a supported range of probable value indications for the subject property. As you gain appraisal experience, you will quickly learn to narrow the value range of the subject property to a single value using qualitative analysis to determine the most probable position of the subject within this range. Your analysis gives the comparables that are most similar to the subject the greatest weight.

The appraiser should not rely solely on the net adjustment, calculated by totaling the positive and negative adjustments and subtracting (or adding) that amount from the sales price.

A comparable property may have a low net adjustment resulting from several large adjustments that are both positive and negative, resulting in a near zero overall net change, but a large gross adjustment. Another comparable property with a few all positive or all negative adjustments may have a greater net adjustment but a relatively small gross adjustment.

For example, Comp B has several positive adjustments that total $45,000 and a few large negative adjustments that total -$40,000. The net adjustment is only $5,000 with the gross adjustment being $85,000. Comp C has no positive adjustments and a few small negative adjustments that total -$7,000. If the sales are similar otherwise, in reconciliation the comparable property that required the larger gross adjustments may not be the best indicator of the subject's value. The comparable property that required fewer total adjustments usually is given more weight in the reconciliation of the final value estimate.

Let's review. You have learned how to inspect the subject, the comparable properties, and to make comparisons. You have adjusted the sales prices for changes over time and made value adjustments to the comparable properties to account for qualitative and quantitative differences between the subject and comparable sales. After making all these adjustments for differences in the elements of comparison, you arrived at final adjusted sales prices for each comparable property.

3.46

Within what value range do the rounded adjusted sales prices indicate our subject property's real market value should fall?

The value of the subject property in this case must lie between

$_____ and $_____.

3.47

You have already derived that the value of the subject property lies between $308,200 and $335,500. Where within the range best represents the subject?

a. The subject property value is halfway between $308,200 and $335,500.

b. The subject property value is closer to the value of Comp #1.

c. The subject property value is closer to the value of Comp #2.

d. The subject property value is closer to the value of Comp #3.

e. Any of the four is possible.

A subject property whose estimated value lies within a range of three comparables' adjusted values may be halfway between the high and

the low valued property or may lie closer to one value than the others.

For example, suppose you are comparing a new mid-sized car with a new economy compact model and a new large luxury car. You estimate that the value of the mid-sized car lies somewhere between those for the compact and the luxury models.

3.48

You would probably decide that the mid-sized model's value is:

a. closer to the compact's value

b. closer to the luxury car's value

c. close to the middle of the range

Let's examine the possibilities one at a time. First, look at the situation when the value of the subject property is halfway between the sales prices of two comparables.

For example, you have narrowed the value range of the subject property between $308,200 and $335,500. Suppose you give equal weight to both comps, and therefore estimate the subject property's value lies halfway between.

3.49

Your value estimate for the subject property should be:

a. $321,850

b. $309,530

c. $299,000

d. Some other amount

Here's how we arrive at the halfway mark.

Step 1: Subtract the smaller figure from the larger.

$335,500

– 308,200

$ 27,300 remainder

Step 2: Divide the remainder above by 2.

$27,300 ÷ 2 = $13,650

Step 3: Add the answer from Step 2 to the lower of the two original amounts.

$308,200

+ 13,650

$321,850

3.50

Using the method above, find the midpoint between $275,000 and $310,000.

$ _____.

3.51

Find the midpoint between $542,500 and $652,500. $ _____.

We have been working with situations in which we judged the value of the subject property as lying halfway between the values of two comparables. Let's look at another situation.

Suppose we determine that two of the comparable properties' adjusted sales prices best represent the value of the subject property. And, **through appraisal judgment**, we determine that the value of the subject is closer to one of the adjusted sales prices than the other. How do we calculate a value that is not halfway between two amounts but closer to one of them?

3.52

Assume that we determine the final estimate of value is one-third of the way between Comp D and Comp E. If Comp D has an adjusted sales price of $420,000 and Comp E has an adjusted sales price of $432,000, what would be the amount that is one-third of the distance between the two prices?

a. $426,000

b. $424,000

c. $430,000

d. None of the above

Here is how we estimated the real market value:

Step 1: Subtract the smaller figure from the larger.

$432,000 Comp E

–420,000 Comp D

$ 12,000 remainder

Step 2: Divide the remainder above by 3.

$12,000 ÷ 3 = $4,000

Step 3: Add the answer from Step 2 to the lower of the two original amounts.

$420,000

+ 4,000

$424,000 Real Market Value Estimate

Review

3.53

Now we will review what you have learned. What is your final value estimate in this case for a subject property using the sales information below? $_____.

Property	Sold For	Rated As
Comp #1	$343,000	+
Comp #2	$339,000	=
Comp #3	$344,000	+

3.54

Place a final value estimate on the subject property in this example.

Property	Sold For	Rated As
Comp #1	$155,500	–
Comp #2	$152,500	–
Comp #3	$160,000	+
Comp #4	$164,500	+

You estimate that the subject property's value lies in the middle of the narrowed range giving equal weight to comparable #1 and #3. Therefore, you set the final value estimate at $_____.

Here is how we estimated the real market value:

Step 1: Array the comparables from the lowest value to the highest value.

$152,500 (-), $155,500 (-), $160,000 (+), $164,500 (+)

Conclusion of Value: Since the lowest two comparables are poorer (-) as compared to the subject, and the two higher valued comparables are rated better (+) than the subject, with no other qualitative data, the subject's real market value must be halfway between the two middle comparable sales.

Step 2: Subtract the smaller figure from the larger.

$160,000 Comp #3

–155,500 Comp #2

$ 4,500 remainder

Step 3: Divide the remainder above by 2.

$4,500 ÷ 2 = $ 2,250

Step 4: Add the answer from Step 2 to the lower of the two original amounts.

$155,500

+ 2,250

$157,750 Real Market Value Estimate

3.55

Determine a final opinion of value estimate on the subject property in this example.

Property	Sold For	Rated As
Comp #1	$159,000	+
Comp #2	$154,000	–
Comp #3	$162,000	+
Comp #4	$166,000	+

In this example, estimate that the subject property's value lies **closer to the low end** of the narrowed range based on available qualitative information. Therefore, you set the final opinion of value estimate at

a. $155,665

b. $156,500

c. $154,000

d. $159,000

Here is how we estimated the real market value:

Step 1: Array the comparables from the lowest value to the highest value.

$154,000 (-), $159,000 (+), $162,000 (+), $166,000 (+)

Conclusion of Value Range: Since the lowest valued comparable, Comp #2, is poorer as compared to the subject, and Comp #1 is rated better than the subject, available qualitative data suggests that slightly more weight should be given to Comp #2 due to similarities to the subject, you estimate that the value is closer to the low end of the value range of $154,000 to $159,000. The subject's real market value is estimated to be one-third between the values of Comp #2 and Comp #1.

Step 2: Subtract the smaller figure from the larger.

$159,000 Comp #1

–154,000 Comp #2

$ 5,000 remainder

Step 3: Divide the remainder above by 3.

$5,000 ÷ 3 = $1,665

Step 4: Add the answer from Step 2 to the lower of the two original amounts.

$154,000

+ 1,665

$155,665 Real Market Value Estimate

Final Value Estimate

3.56

You now have learned one technique for estimating property value using comparable sales data. Use what you have learned to estimate the real market value for the subject property described in Exhibit C using the Sales Comparison Grid form that you completed in Problem 3.45. Fill in all the blank sections at the top of the form including the Final Estimate of Value and Conclusion of Value Basis areas.

Remember, you must:

1) Array your data and compare it with your subject

2) Narrow the value range

3) Estimate the final opinion of value

What is your Final Estimate of Real Market Value for the Subject Property in Exhibit C and the basis for your conclusion of value? $_____
Explanation:_____
_____
_____
_____
_____
_____

Your answer may not be the same final estimate of value found in the Answer Section. You are using appraisal judgment to arrive at an opinion of value; therefore there is not a single final and exact answer.

How did we arrive at our final value?

Review the information in the paragraphs preceding Problem 3.46: Narrowing the Probable Value Range—Reconciliation.

In part it states, "If the sales are similar otherwise, in reconciliation the comparable property that required the larger gross adjustments may not be the best indicator of the subject's value. The comparable property that required fewer total adjustments usually is given more weight in the reconciliation of the final value estimate."

When we analyze our Final Adjusted Sales Prices, the values for Comp #1 and Comp #2 are: $335,500 and $315,100. However, Comp #1 required several adjustments for elements of comparison, Comp #2 had a more modest number of adjustments, and Comp #3 had a minimum number of adjustments. Therefore, it is reasonable to conclude on the basis that the subject's market value is within the range of the adjusted sales prices for Comp #2 and Comp #3.

Another method of comparison would be to calculate the percentage of the overall adjustment for each comparable for each Sales Price Adjusted for Change.

3.57

Add together the net adjustments for improvements and for land to obtain an overall adjustment for each comparable property in our project. What is the overall adjustment for:

Comp #1? $ _____

Comp #2? $ _____

Comp #3? $ _____

3.58

Now calculate the percentage the overall adjustment of each comparable is to the Sales Price Adjusted for Change.

Comp #1 ____%

Comp #2 ____%

Comp #3 ____%

These comparisons clearly indicate that Comp #2 and Comp #3 are much more similar to the subject property than Comp #1. Again, we have narrowed our range of value to the final adjusted sales prices for Comp #2 and Comp #3.

3.59

What is our range of values? Between $_____ and $_____.

The next step is to derive where within the range best represents the value of the subject property. Qualitative analysis suggests the subject property is more similar to Comp #3 than to Comp #2. Therefore, we place more weight on Comp #3 by estimating a final value that is one-third of the way between these two values.

Here is how we estimated the real market value:

Step 1: Array the comparables from the lowest value to the highest value.

$308,200 to $315,100

Step 2: Subtract the smaller figure from the larger.

$315,100 Comp #2

–308,200 Comp #3

$ 6,900 remainder

Step 3: Divide the remainder above by 3.

$6,900 ÷ 3 = $2,300

Step 4: Add the answer from Step 3 to the lower of the two values in Step 1.

$308,200

+ 2,300

$310,500 Real Market Value Estimate

Therefore, our opinion of value estimate for the subject property is $310,500.

If you estimated the Subject Property is nearer in value to Comp #2 than to Comp #3, your estimate may have been $312,800.

If your opinion was that the Subject Property was midway between the two comps, your estimate would have been $311,650.

Introduction to Allocating the Total Property Value between Land and Improvements

After estimating a final total value for a property, for assessment purposes in Oregon you must allocate the total value between the land and the improvements. It is said, that under the theory of Highest and Best Use, land value is the foundation upon which all real estate value is based, while improvements may either add to or subtract from the value of the whole. Land, being permanent or a non-depreciating asset, has a value separate from that of any buildings on it. Buildings and structures tend to depreciate or wear out physically as well as economically. Oregon property assessment law requires the real market value estimate—shown on the assessment and tax rolls—includes an estimate of the land value as well as one for the improvements (buildings and structures). In this section, you will learn techniques used to allocate the final value estimate between land and buildings.

It would be handy if there existed some guide to tell you just how to allocate the value between

land and buildings. For example, if you knew that land is 35 percent of the total value, you would know that a $350,000 property is really a $227,500 building located on a $122,500 site. However, the relative value of land is not the same from one market to another, nor even in the same market from one location to another. In addition, the change in market value level as the result of time and factors attributed to supply and demand have market values constantly in a flux of change. Land values typically vary considerably from one neighborhood to another.

For example, suppose you wanted to build a house on a lot 100 feet by 100 feet. Farmer Miller will sell you 10,000 square feet of his pasture for $250,000. No utilities are provided. Therefore, there is the need to drill a well for water, install a septic system, and bring electricity and phone service to the lot. In a nearby town, in a newer housing development, the builder wants $250,000 for a 10,000 square foot site with all on-site improvements stubbed out into the lot including sewer, water, electrical, natural gas and telephone.

3.60

If you build your house on Miller's land, your land value would be a different percent of your total value than if you build in the new development, assuming that identical houses are built on each lot.

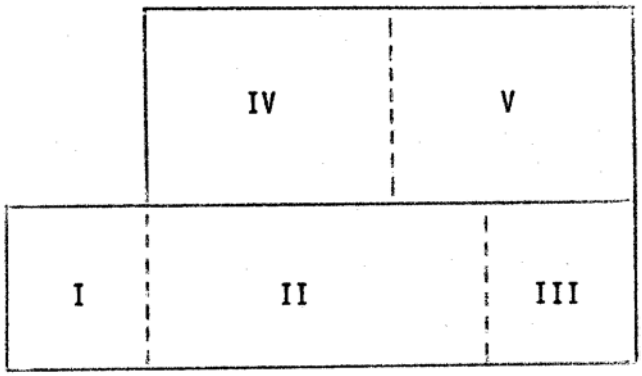
Why? Explain in your own words: _____
_____
_____
_____
_____
_____

Assuming the installation of a well, septic, etc., costs an additional $75,000 and that both lots have $250,000 homes built on them, then the land allocation for the Miller property would be $325,000, or 57 percent. In contrast, for the property built in the newer housing development, the land allocation would be $250,000 or 50 percent.

By now, it is clear that there is no quick formula for allocating land values and building values. However, Oregon property assessment law requires an assessor to separate the total real market value into land and building values as shown on the assessment and tax rolls. Because of this requirement, Oregon assessors and their staffs must track, develop land value tables, and maintain land values for all types of property including residential, commercial, industrial, rural, etc.

The assessor maintains a set of maps of their county. Land values for each neighborhood are determined by studying prices paid for vacant land including value increments (adjustments) for better or poorer factors such as zoning, location, size, view, river frontage, etc. From this information, land studies are conducted using various techniques resulting in land values schedules which are used to value the land component of the overall value estimate.

Below is a simple map such as a tax assessor's office might use.



Let's assume for mass appraisal work the assessor has divided the county into five sections. Then, from the available sales data, lot value schedules for each section are developed using the sales comparison approach. Adjustment factors such as location, zoning, size, view, etc., are derived using paired data analysis. When the appraiser reviews a property in Section IV, they refer to the schedule of land values established for that market area and use it to allocate the overall value estimate between land and improvements.

Therefore, when conducting a complete reappraisal of a market area, the first step that an appraiser must do using the sales comparison approach and paired data analysis, is to establish an appropriate land value schedule with adjustments for better (superior) and/or poorer (inferior) features.

3.61

This means that:

a. The appraiser must value all lots in the section area before appraising a single lot.

b. The appraiser must use the sales information that has been gathered for that market area and develop land value schedules before appraising a single lot.

c. The appraiser simply allocates the total value.

Using the sales comparison approach and paired data analysis, the appraiser will develop a land valuation schedule with adjustments which will be in the form of price per square foot, price per front foot, or site value. Once that is completed, the schedule will be used to value the land component for each tax lot or parcels within the market area.

Residential and commercial land prices are typically thought of in terms of sales price per square foot. Larger parcels such as rural tract or farms are usually analyzed on a sales price per acre. Occasionally, sales prices may be extracted on the basis of dollars per front foot for property that is water-related, e.g. oceanfront or riverfront property. Some commercial and industrial land may also be analyzed on that basis, e.g. deepwater port industrial property.

Remember that the purpose of an appraisal is to reflect or mirror the thinking in the market place. Through the confirmation process, the appraiser must determine the appropriate unit of comparison for the particular appraisal assignment.

Suppose the typical sales price per buildable site in a new residential neighborhood is $95,000. The typical site is irregular in shape and ranges in size from 8,000 square feet to about 9,000 square feet. The few lots that back up to an open space area, which will remain undeveloped, are sold at a premium of $100,000. The development also has a few oversized lots of 10,000 to 11,000 square feet which are large enough to accommodate the development of an RV pad.

The sales indicate that the market is willing to pay $100,000 for these oversize lots as well. One of the oversized lots backs up to the open space area. Records indicate that it sold for $105,000. Your appraisal assignment is to establish a current land valuation schedule for this neighborhood.

3.62

Using the sales comparison approach, what is the value of the typical lot? Why? (Explain in your own words.)

a. $105,000

b. $95,000

c. $90,000

d. $100,000

3.63

Using the sales comparison approach and paired data analysis, what is the market adjustment for an oversized lot?

a. $100,000

b. $10,000

c. $105,000

d. $5,000

Note: Since market change was determined to be flat or not changing, no adjustment for market change was required. If analysis indicated a need for a change adjustment, apply the adjustment to the sales price of the comparables prior to any other adjustments for differences in property characteristics.

3.64

Again, referring to the information above, what is the market derived adjustment for a lot being adjacent to the greenway or open space?

a. $100,000

b. $10,000

c. $105,000

d. $5,000

3.65

Using the market factors extracted above, what would a land valuation schedule look like for our subject neighborhood?

Base Land Value $ _____

Size Adjustment $ _____

Open Space Enhancement $ _____

3.66

Using the developed land value schedule, what would the indicated real market value of a vacant site in our subject neighborhood be if the lot was oversized and backed up to the greenway?

a. $100,000

b. $10,000

c. $105,000

d. $5,000

Conclusion of the Sales Comparison Approach to Value

This concludes the programmed instruction course using the sales comparison approach to estimate value. You now have the ability to make value estimates based upon comparing properties which have sold to properties being appraised which have not sold. You have also learned how to establish the land value portion of the overall value estimate for the property using sales comparison and paired data analysis technique.

As you acquire experience in the use of the techniques which you learned here, you will gain speed in making value estimates and will also learn to estimate value with the same degree of accuracy and refinement as used by competent fee appraisers. Moreover, you will be able to apply these techniques to estimate the value of other types of property, such as farms and commercial properties. In fact, you can use these techniques on any type of property where adequate sales information exists, since the availability of sales information is the limiting factor. The adjustments will be different with other types of property; the techniques will be the same. These techniques are also used to develop re-valuation standards for mass appraisal purposes such as those used by Oregon's assessment officials.

Lesson 3: Answers

3.1

Easier

3.2

b. Drive around the neighborhood before going to the comparable.

3.3

More

3.4

Comp # 1		Comp # 2		Comp # 3	
Sales Price:	$ 286,000	Sales Price:	$ 312,000	Sales Price:	$ 310,000
Sales Date:	3 mo. ago	Sales Date:	4 mo. ago	Sales Date:	2 mo. ago

3.5

Appreciating

3.6

Comp #1: 3%

Comp #2: 4%

Comp #3: 2%

3.7

1.03

3.8

Comp #1 $294,580

Comp #2 $324,480

Comp #3 $316,200

3.9

				Comp # 1		Comp # 2		Comp # 3	
LOCATION				Description	Rating Adjustment	Description	Rating Adjustment	Description	Rating Adjustment
Area	☐ Urban	☑ Suburban	☐ Rural	Suburb		Suburb		Suburb	
Values	☑ Increasing	☐ Stable	☐ Declining	Incr		Incr		Incr	
Desirability	☑ High	☐ Average	☐ Low	High		High		High	

3.10

NEIGHBORHOOD CHARACTERISTICS				Comp # 1	Comp # 2	Comp # 3
Built-Up	☑ Over 75%	☐ 25-75%	☐ Under 25%	75%+	75%+	75%+
Schools Proximity		☑ Average	☐ Below Average	Avg	Avg	Avg
Public Transportation		☑ Available	☐ Not Available	Yes	Yes	Yes
Conformity	☑ Homogeneous	☐ Non-Homogeneous		Same	Same	Same
Adverse Conditions		☑ No	☐ Yes _____	No	No	No
ZONING						
Classification	R-1			R-1	R-1	R-1
Compliance	☑ Legal	☐ Illegal	☐ Legal Nonconforming	Legal	Legal	Legal
LAND IMPROVEMENTS AND SERVICES						
Road/Street	☑ Public	☐ Private	☐ None	Same	Same	Same
	☑ Paved	☐ Gravel	☐ Dirt	Same	Same	Same
Sidewalks/curbs		☑ Yes	☐ No	Same	Same	Same
Utilities Typical for Market Area			☑ Yes ☐ No	Same	Same	Same
	☑ Public	☑ Sewer	☑ Power & Water	Same	Same	Same
	☐ Private	☐ Septic	☐ Well/Spring	Same	Same	Same
			☐ Community			

3.11

8,000 sq.ft.

3.12

Fair

3.13

Level

3.14

None

3.15

LOT FEATURES					Comp # 1	
					Description	Rating Adjustment
Size	sq. ft.	Base Value $ _____			8,000	
Landscaping	(Good) Avg / Fair	Base Value $ _____			Fair	
Topography	☑ Level	☐ Sloping	☐ Steep		Level	
View	☐ Excellent	☐ Good	☑ Limited	☐ None	None	

3.16

LOT FEATURES									
Size	8,000 sq. ft.	Base Value _____			8,000		7,020		9,000	
Landscaping	(Good) Avg / Fair	Base Value _____			Fair		Avg		Good	
Topography	☑ Level	☐ Sloping	☐ Steep		Level		Level		Level	
View	☐ Excellent	☐ Good	☑ Limited	☐ None	None		Good		Ltd	

3.17

a. about the same as the value of the subject property

3.18

Higher

3.19

b. subtracting $43,000 from the sale price of the comparable

3.20

c. subtracting the value of the feature from the sale price of the possible comparable

3.21

$222,000

3.22

Lower

3.23

c. adding the market value of an extra bath to the sale price of the comparable

3.24

a. adding the market value of the subject property feature to the sale price of the comparable

3.25

Possible comparable

3.26

Adding

3.27

subtracting . . . from

3.28

LAND				Comp # 1		
				Sales Price:		$ 286,000
				Sales Date:		3 mo. ago
PERCENT ADJUSTMENT FOR CHANGES OVER TIME						3%
SALES PRICE ADJUSTED FOR CHANGE						$ 294,580
LOCATION				Description	Rating	Adjustment
Area	☐ Urban	☑ Suburban	☐ Rural	Suburb	=	
Values	☑ Increasing	☐ Stable	☐ Declining	Incr	=	
Desirability	☑ High	☐ Average	☐ Low	High	=	

3.29

LAND	Comp # 1		Comp # 2		Comp # 3	
	Sales Price:	$ 286,000	Sales Price:	$ 312,000	Sales Price:	$ 310,000
	Sales Date:	3 mo. ago	Sales Date:	4 mo. ago	Sales Date:	2 mo. ago
PERCENT ADJUSTMENT FOR CHANGES OVER TIME		3%		4%		2%
SALES PRICE ADJUSTED FOR CHANGE		$ 294,580		$ 324,480		$ 316,200
LOCATION	Description Rating	Adjustment	Description Rating	Adjustment	Description Rating	Adjustment
Area ☐Urban ☑Suburban ☐Rural	Suburb	=	Suburb	=	Suburb	=
Values ☑Increasing ☐Stable ☐Declining	Incr	=	Incr	=	Incr	=
Desirability ☑High ☐Average ☐Low	High	=	High	=	High	=
NEIGHBORHOOD CHARACTERISTICS						
Built-Up ☑Over 75% ☐25-75% ☐Under 25%	75%+	=	75%+	=	75%+	=
Schools Proximity ☑Average ☐Below Average	Avg	=	Avg	=	Avg	=
Public Transportation ☑Available ☐Not Available	Yes	=	Yes	=	Yes	=
Conformity ☑Homogeneous ☐Non-Homogeneous	Same	=	Same	=	Same	=
Adverse Conditions ☑No ☐Yes _____	No	=	No	=	No	=
ZONING						
Classification R-1	R-1	=	R-1	=	R-1	=
Compliance ☑Legal ☐Illegal ☐Legal Nonconforming	Legal	=	Legal	=	Legal	=
LAND IMPROVEMENTS AND SERVICES						
Road/Street ☑Public ☐Private ☐None	Same	=	Same	=	Same	=
☑Paved ☐Gravel ☐Dirt	Same	=	Same	=	Same	=
Sidewalks/curbs ☑Yes ☐No	Same	=	Same	=	Same	=
Utilities Typical for Market Area ☑Yes ☐No	Same	=	Same	=	Same	=
☑Public ☑Sewer ☑Power & Water	Same	=	Same	=	Same	=
☐Private ☐Septic ☐Well/Spring	Same	=	Same	=	Same	=
☐Community						
LOT FEATURES						
Size 8,000 sq. ft. Base Value $ _____	8,000	=	7,020	I	9,000	S
Landscaping (Good) Avg / Fair Base Value $ _____	Fair	I	Avg	I	Good	=
Topography ☑Level ☐Sloping ☐Steep	Level	=	Level	=	Level	=
View ☐Excellent ☐Good ☑Limited ☐None	None	I	Good	S	Ltd	=

3.30

c. "I have the records right here to show the basis of my judgment."

3.31

8,000 sq. ft.

3.32

$0

3.33

Inferior

3.34

$5,000

3.35

+$5,000

3.36

9,000 sq. ft.

3.37

-$5,000

3.38

$7,000

3.39

		Comp # 1			Comp # 2			Comp # 3		
Landscaping	(Good) / Avg / Fair Base Value $ 7,000	Fair	I	+4,000	Avg	I	+2,000	Good	=	0

3.40

LOT FEATURES

						Comp # 1			Comp # 2			Comp # 3		
Size	8,000 sq. ft.	Base Value	$15,000			8,000	=	0	7,020	I	+5,000	9,000	S	-5,000
Landscaping	(Good) / Avg / Fair	Base Value	$7,000			Fair	I	+4,000	Avg	I	+2,000	Good	=	0
Topography	☑ Level	☐ Sloping	☐ Steep			Level	=	0	Level	=	0	Level	=	0
View	☐ Excellent	☐ Good	☑ Limited	☐ None		None	I	+15,000	Good	S	-10,000	Ltd	=	0

3.41

NET ADJUSTMENT FOR LAND	$ +19,000	$ -3,000	$ -5,000

3.42

GENERAL DESCRIPTION		Comp # 1			Comp # 2			Comp # 3		
(Single Family) Multi-Family: 2 / 3 / 4		Description	Rating	Adjustment	Description	Rating	Adjustment	Description	Rating	Adjustment
Year Built ***1997***	Effective Year Built ***2002***									
General Construction Quality	☐ Good ☑ Average ☐ Fair	*Avg*	=	*0*	*Avg*	=	*0*	*Avg*	=	*0*
General Overall Maintenance	☑ Good ☐ Average ☐ Def. Maint.	*Fair*	*I*	*+20,000*	*Avg*	*I*	*+10,000*	*Good*	=	*0*
Total Finished Living Area ***2,164*** sq. ft.		*2090*	*I*	*+5,550*	*2275*	*S*	*-8,325*	*2100*	*I*	*+4,800*
EXTERIOR										
Foundation	☑ Conc/Block ☐ Slab ☐ Crawl Space	*Conc*	=	*0*	*Conc*	=	*0*	*Conc*	=	*0*
Exterior Walls	***Wood / Hardiplank***	*Cedar*	=	*0*	*Hp&stone*	=	*0*	*Wood*	=	*0*
Roof	☑ Gable ☐ Hip ☐ .____	*Gable*	=	*0*	*Gable*	=	*0*	*Hip*	=	*0*
Windows	☐ Good ☑ Average ☐ Fair	*Avg*	=	*0*	*Avg*	=	*0*	*Avg*	=	*0*
INTERIOR										
Bedrooms	# ***4***	*4*	=	*0*	*4*	=	*0*	*4*	=	*0*
Bathrooms	# ***2***Full ***1*** Half Total ***$10,000***	*2 / 1*	=	*0*	*3 Full*	*S*	*-2,000*	*2 / 1*	=	*0*
Heating	☑ FA ☑ V/C ☐ Wall ☐ Elec ☑ Gas	*No A/C*	*I*	*+1,500*	*Same*	=	*0*	*Same*	=	*0*
Electrical	☐ Good ☑ Average ☐ Fair	*Avg*	=	*0*	*Avg*	=	*0*	*Avg*	=	*0*
Fireplace(s)	# ***1*** Type ***Gas***	*2 Gas*	*S*	*-2,500*	*Stkd*	*S*	*-4,500*	*Sgl*	=	*0*
Exterior Brick Chimney Y (N)	☐ 1-Story ☐ 2-Story	*2-Sty*	*S*	*-1,600*	*2-Sty*	*S*	*-1,600*	*1-Sty*	*S*	*-800*
KITCHEN										
Condition	☐ Good ☑ Average ☐ Fair	*Avg*	=	*0*	*Avg*	=	*0*	*Avg*	=	*0*
Appliances	☐ Good ☑ Average ☐ Fair	*Avg*	=	*0*	*Avg*	=	*0*	*Avg*	=	*0*
YARD IMPROVEMENTS										
	☐ Good ☑ Average ☐ Fair	*Fair*	*I*	*+4,000*	*Avg*	=	*0*	*Good*	*S*	*-4,000*
GARAGE/PARKING	☐ None									
(Attached) / Detached / Bsmt:	# Cars ***2*** ☐ Oversized	*2 Car+*	*S*	*-3,000*	*2*	=	*0*	*2 Car+*	*S*	*-3,000*
Carport:	# Cars	*No*	=	*0*	*No*	=	*0*	*No*	=	*0*
RV pad:	☐ Yes	*Yes*	*S*	*-2,000*	*No*	=	*0*	*No*	=	*0*

3.43

Comp #1 +$21,950

Comp #2 -$6,425

Comp #3 -$3,000

3.44

Comp #1 $335,530

Comp #2 $315,055

Comp #3 $308,200

3.45

Comp #1 $335,500

Comp #2 $315,100

Comp #3 $308,200

3.46

$308,200 and $335,500

3.47

e. Any of the four is possible.

3.48

c. close to the middle of the range

3.49

a. $321,850

3.50

$292,500

3.51

$597,500

3.52

b. $424,000

3.53

$339,000

3.54

$157,750

3.55

$155,665

3.56

Final Estimate of Value: $310,500

Conclusion of Value Basis:

Comp #3 is the most similar in comparison to the subject property with strong support from Comp #2. Comp #1 was the least similar and required the greatest amount of adjustment. Concluded the final estimate of value to be one-third the distance within the range of value between Comp #3 and Comp #2.

3.57

Comp #1 +$40,950

Comp #2 -$9,425

Comp #3 -$8,000

3.58

Comp #1 = 14% (40,950 ÷ 294,580 = 0.1390)

Comp #2 = 3% (9,425 ÷ 324,480 = 0.0290)

Comp #3 = 3% (8,000 ÷ 316,200 = 0.0253)

3.59

$308,200 and $315,100

3.60

The Miller lot will require a considerable input of monies and labor to install the utilities needed to support a house. Once the additional cost of a well, septic, electricity and phone are added to the purchase price of the land, the total land allocation is higher than that for the ready-to-be-built-on site in the newer housing development.

3.61

The appraiser must use the sales information that has been gathered for that market area and develop land value schedules before appraising a single lot.

3.62

b. $95,000

Analysis of sales of typically sized lots with no additional features indicates the base lot is worth $95,000. Furthermore, analysis indicates that all sales are recent and that market change is currently flat or not changing in this market area.

3.63

d. $5,000

Following is how we determined the market value for this adjustment:

Using sales comparison and matched pairs analysis:	Oversize Lot sales $100,000
	Typical Lot Sales 95,000
	Value of Excess Land $ 5,000

3.64

d. $5,000

Following is how we determined the market value for this adjustment:

Using sales comparison and matched pairs analysis:	Open Space Lot sales $100,000
	Typical Lot Sales 95,000
	Value of Open Space Feature $ 5,000

3.65

Base Land Value $95,000

Typical Lot description: Irregular shaped, 8,000 to 9,000 sq. ft in size, no additional features.

Size Adjustment: Oversized lot +$5,000

Oversized lots range in size from 10,000 to 11,000 square feet and have the potential to support an RV parking space.

Open Space Enhancement: +$5,000

Open space or greenway enhancement will be applied to those lots that back up to the greenway.

3.66

c. $105,000

The base lot is $95,000, the adjustment for size is +$5,000, and the adjustment for open space is +$5,000. Therefore, the indicated real market value of the site is $95,000 + $5,000 + $5,000 = $105, 000. In addition, the one sale of a lot adjacent to the Greenway and is oversized indicates the real market value to be $105,000.

Completed Sales Comparison Grid

SALES COMPARISON GRID

Subject Property Address: *1936 Mossy Rock Court, Salem, OR*

Owner: *Joe & Jane Smith*

Map and Tax Lot: *08 3W 05DA 00802*

Final Estimate of Value: *$310,500*

Comparables — Address
1 *1815 Fern Drive, Salem, OR*
2 *2121 Steens Circle, Salem, OR*
3 *936 21st Street NE, Salem, OR*

Conclusion of Value Basis: *Comp #3 is the most similar in comparison to the subject property with strong support from Comp #2. Comp #1 was the least similar and required the greatest amount of adjustment. Concluded the final estimate of value to be one-third the distance within the range of value between Comp #3 and Comp #2.*

Rating: Superior (S), Similar (=), Inferior (I)

Adjust comparable property to the subject property.

SUBJECT PROPERTY CHARACTERISTICS

LAND

	Comp # 1		Comp # 2		Comp # 3	
Sales Price:	$ 286,000		$ 312,000		$ 310,000	
Sales Date:	3 mo. ago		4 mo. ago		2 mo. ago	
PERCENT ADJUSTMENT FOR CHANGES OVER TIME	3%		4%		2%	
SALES PRICE ADJUSTED FOR CHANGE	$ 294,580		$ 324,480		$ 316,200	
	Description Rating	Adjustment	Description Rating	Adjustment	Description Rating	Adjustment
LOCATION						
Area ☐ Urban ☑ Suburban ☐ Rural	Suburb =	0	Suburb =	0	Suburb =	0
Values ☑ Increasing ☐ Stable ☐ Declining	Incr =	0	Incr =	0	Incr =	0
Desirability ☑ High ☐ Average ☐ Low	High =	0	High =	0	High =	0
NEIGHBORHOOD CHARACTERISTICS						
Built-Up ☑ Over 75% ☐ 25-75% ☐ Under 25%	75%+ =	0	75%+ =	0	75%+ =	0
Schools Proximity ☑ Average ☐ Below Average	Avg =	0	Avg =	0	Avg =	0
Public Transportation ☑ Available ☐ Not Available	Yes =	0	Yes =	0	Yes =	0
Conformity ☑ Homogeneous ☐ Non-Homogeneous	Same =	0	Same =	0	Same =	0
Adverse Conditions ☑ No ☐ Yes _____	No =	0	No =	0	No =	0
ZONING						
Classification *R-1*	R-1 =	0	R-1 =	0	R-1 =	0
Compliance ☑ Legal ☐ Illegal ☐ Legal Nonconforming	Legal =	0	Legal =	0	Legal =	0
LAND IMPROVEMENTS AND SERVICES						
Road/Street ☑ Public ☐ Private ☐ None	Same =	0	Same =	0	Same =	0
☑ Paved ☐ Gravel ☐ Dirt	Same =	0	Same =	0	Same =	0
Sidewalks/curbs ☑ Yes ☐ No	Same =	0	Same =	0	Same =	0
Utilities Typical for Market Area ☑ Yes ☐ No	Same =	0	Same =	0	Same =	0
☑ Public ☑ Sewer ☑ Power & Water	Same =	0	Same =	0	Same =	0
☐ Private ☐ Septic ☐ Well/Spring	Same =	0	Same =	0	Same =	0
☐ Community						
LOT FEATURES						
Size 8,000 sq. ft. Base Value $115,000	8,000 =	0	7,020 I	+5,000	9,000 S	-5,000
Landscaping (Good) Avg / Fair Base Value $7,000	Fair I	+4,000	Avg I	+2,000	Good =	0
Topography ☑ Level ☐ Sloping ☐ Steep	Level =	0	Level =	0	Level =	0
View ☐ Excellent ☐ Good ☑ Limited ☐ None	None I	+15,000	Good S	-10,000	Ltd =	0
NET ADJUSTMENT FOR LAND	$	+19,000	$	-3,000	$	-5,000

SALES COMPARISON GRID

SUBJECT PROPERTY CHARACTERISTICS

Rating: Superior (S), Similar (=), Inferior (I)

Adjust comparable property to the subject property.

IMPROVEMENTS

GENERAL DESCRIPTION

(Single Family) Multi-Family: 2 / 3 / 4

Year Built ***1997*** Effective Year Built ***2002***

General Construction Quality ☐ Good ☑ Average ☐ Fair

General Overall Maintenance ☑ Good ☐ Average ☐ Def. Maint.

Total Finished Living Area ***2,164*** sq. ft.

	Comp # 1			Comp # 2			Comp # 3		
	Description	Rating	Adjustment	Description	Rating	Adjustment	Description	Rating	Adjustment
General Construction Quality	Avg	=	0	Avg	=	0	Avg	=	0
General Overall Maintenance	Fair	I	+20,000	Avg	I	+10,000	Good	=	0
Total Finished Living Area	2090	I	+5,550	2275	S	-8,325	2100	I	+4,800
EXTERIOR									
Foundation ☑ Conc/Block ☐ Slab ☐ Crawl Space	Conc	=	0	Conc	=	0	Conc	=	0
Exterior Walls ***Wood / Hardiplank***	Cedar	=	0	Hp&stone	=	0	Wood	=	0
Roof ☑ Gable ☐ Hip ☐ .____	Gable	=	0	Gable	=	0	Hip	=	0
Windows ☐ Good ☑ Average ☐ Fair	Avg	=	0	Avg	=	0	Avg	=	0
INTERIOR									
Bedrooms # ***4***	4	=	0	4	=	0	4	=	0
Bathrooms # ***2***Full ***1*** Half Total ***$10,000***	2 / 1	=	0	3 Full	S	-2,000	2 / 1	=	0
Heating ☑ FA ☑ A/C ☐ Wall ☐ Elec ☑ Gas	No A/C	I	+1,500	Same	=	0	Same	=	0
Electrical ☐ Good ☑ Average ☐ Fair	Avg	=	0	Avg	=	0	Avg	=	0
Fireplace(s) # ***1*** Type ***Gas***	2 Gas	S	-2,500	Stkd	S	-4,500	Sgl	=	0
Exterior Brick Chimney Y (N) ☐ 1-Story ☐ 2-Story	2-Sty	S	-1,600	2-Sty	S	-1,600	1-Sty	S	-800
KITCHEN									
Condition ☐ Good ☑ Average ☐ Fair	Avg	=	0	Avg	=	0	Avg	=	0
Appliances ☐ Good ☑ Average ☐ Fair	Avg	=	0	Avg	=	0	Avg	=	0
YARD IMPROVEMENTS									
☐ Good ☑ Average ☐ Fair	Fair	I	+4,000	Avg	=	0	Good	S	-4,000
GARAGE/PARKING ☐ None									
(Attached) / Detached / Bsmt: # Cars ***2*** ☐ Oversized	2 Car+	S	-3,000	2	=	0	2 Car+	S	-3,000
Carport: # Cars	No	=	0	No	=	0	No	=	0
RV pad: ☐ Yes	Yes	S	-2,000	No	=	0	No	=	0
NET ADJUSTMENT FOR IMPROVEMENTS	$		+21,950	$		-6,425	$		-3,000
NET ADJUSTMENT FOR LAND BROUGHT FORWARD	$		+19,000	$		-3,000	$		-5,000
FINAL ADJUSTED SALES PRICE	$		335,530	$		315,055	$		308,200
FINAL ADJUSTED SALES PRICE (ROUNDED)	$		***335,500***	$		***315,100***	$		***308,200***
TOTAL ALLOCATION OF LAND	$		118,000	$		140,000	$		142,000
TOTAL ALLOCATION OF BUILDINGS	$		196,900	$		175,100	$		161,100
RATIO OF LAND TO BUILDINGS			35:65			44:56			46:54

The Sales Comparison Approach to Value

Appendix

Revised by Property Tax Division
Oregon Department of Revenue
June 2007

Exhibit A

150-308.215(1)-(A)

Real Market Value and Property Classification as Part of Assessment Roll

(1) In addition to the assessed value of property, the assessment roll must show:

(a) The real market value (RMV) of the land, excluding all buildings, structures, and improvements thereon;

(b) The RMV of all buildings, structures, and improvements; and

(c) The total RMV for each parcel of real property not required to be assessed as a unit.

(d) For properties subject to ORS Chapter 100, for example, condominiums and time shares that are required to be assessed as a unit, the assessment roll must show the RMV as well as the assessed value of each unit.

(2) The assessment roll must include the property classification code number for each parcel of real property in the county, except for those properties assessed by the department under ORS 308.505 to 308.605. The assessor must classify and assign a property classification code number to each parcel as provided in section (8) of this rule.

(3) The assessor must maintain the proper classification on each parcel of property.

(4) A county must separately identify and adjust land and improvement values for each property class for each market area to bring real property to RMV.

These adjustments to value must be developed from market studies or by any other method approved by the department as provided under ORS 309.200.

(5) The class code numbers that this rule establishes must be used for computing the real property class ratios required by ORS 309.200.

(6) An assessor must obtain written approval from the Department of Revenue before deviating from the basic property classes defined in section (8) of this rule.

(7)(a) All classification must be based upon highest and best use of the property. The term "highest and best use" is defined in OARs 150-308.205-(A) and 150-308.205-(D). The class associated with the property may or may not be its current use.

(b) Unique properties can be classified under the "miscellaneous" category in section (8). The "miscellaneous" category can also be used for property requiring a separate trend.

(c) The property classification system must not be used to categorize market data that is more accurately described by other characteristics, such as the quality class of the improvements, market areas, or neighborhoods.

(d) The property class for mixed-use or transitional properties will be assigned based upon the use that contributes the most to the real market value on the current assessment date.

(A) A mixed-use property is one in which different parts of the property are used differently, such as a commercial use on one part, and a residential use on another part.

(B) A transitional use property is one in which the real market value on the current assessment date, at its current highest and best use, is being influenced in the market by an anticipated change in future use, such as residential property that is likely to sell for a commercial use in the future, but is not in commercial use on the assessment date.

(8) DEFINITIONS FOR PROPERTY CLASSIFICATION SYSTEM.

BASIC PROPERTY CLASSES

First Digit	Second Digit	Third Digit
0-Miscellaneous	0-No Significance	0-Vacant
1-Residential	1-Residential zone	1-Improved
2-Commercial	2-Commercial zone	2-Condominium
3-Industrial	3-Industrial zone	3-State responsibility
4-Tract	4-Unzoned farmland	4-Partially exempt
5-Farm	5-Exclusive Farm Use (EFU)	5-Taxable leased
6-Forest	6-Small Tract Forestland (STF)	6-Waterfront
7-Multi-family	7-Permanent Farm-Use Disqual. due to ORS 215.236	7-Mobile home parks
8-Recreation	8-Mult. Spec. assessments	8- (Left blank)
9-Exempt	9-Potential development	9-Manufactured Structure

1-0-0 Residential land only is an unimproved property that has residential use as its highest and best use, and the primary zoning is residential.

1-0-1 Residential property is an improved property that has residential use as its highest and best use.

2-0-0 Commercial land only is an unimproved property that has commercial use as its highest and best use, and the primary zoning is commercial.

2-0-1 Commercial property is an improved property that has commercial use as its highest and best use. This highest and best use is as income-producing property. Examples of commercial property include, but are not limited to: retail stores, supermarkets, discount stores, department stores, convenience marts, financial institutions, office buildings, small retail laundries, dry cleaners, medical and dental office buildings, recreational vehicle parks, hospitals, restaurants, theaters, automobile service stations and truck stops, automotive service centers, parking garages, car dealerships, hotels, and motels.

3-0-0 Industrial land only is an unimproved property that has industrial use as its highest and best use, and the primary zoning is industrial.

3-0-1 Industrial property is an improved property that has industrial use as its highest and best use. Industrial property includes, but is not limited to, those properties described by ORS 306.126, OAR 150-306.126(1) and ORS 308.408. Industrial property is typically located in an industrial zone, but may be located in areas with other types of zoning, for example, if it is a pre-existing or conditional use. Property-use characteristics typically include assembly, processing or manufacturing products from raw materials or fabricated parts and includes factories that render service, for example, large non-retail laundries and dry cleaners. Examples of industrial property include, but are not limited to, steel plants, foundries, chemical plants, and assembly plants; saw mills, plywood plants, and wood pulp or paper mills; high technology facilities, research and development facilities, science parks, and light and heavy manufacturing facilities; storage and distribution warehouses; natural resource processing and refining facilities such as natural gas wells and rock quarries. Classification of property as industrial is a separate determination from appraisal responsibility. Department or county responsibility for appraising industrial property is described in OAR 150-306.126(1).

4-0-0 Tract land only is parcels of varying sizes of unimproved acreage where the highest and best use is for development to a suburban or rural homesite, but the land is not divided into urban-type lots.

4-0-1 Tract property is parcels of varying sizes of improved acreage where the highest and best use is for a suburban or rural homesite, but the land is not divided into urban-type lots.

5-0-0 Farm and range land is vacant land where the highest and best use is for the production of agricultural crops, feeding or management of livestock, or any other agricultural use, and the land is not specially assessed for farm use.

5-0-1 Farm and range property is land improved with buildings where the highest and best use is for the production of agricultural crops, feeding or management of livestock, or any other agricultural use, and the land is not specially assessed for farm use.

5-4-0 Non-EFU zone farm and range land is vacant land that is under special farm-use assessment by application.

5-4-1 Non-EFU zone farm and range property is land improved with buildings that is under special farm-use assessment by application.

5-5-0 EFU zoned farm and range land is vacant land that is under special farm-use assessment by zoning.

5-5-1 EFU zoned farm and range property is land improved with buildings that is under special farm-use assessment by zoning.

6-0-0 Forestland is vacant land with a highest and best use for growing and harvesting trees of a marketable species.

6-0-1 Forest property is land improved with buildings with a highest and best use for growing and harvesting trees of a marketable species.

6-4-0 Forestland is vacant land for which the highest and best use is one other than growing and harvesting of trees of a marketable species but the land has been designated as forestland by application.

6-4-1 Forest property is land improved with buildings for which the highest and best use is something other than growing and harvesting trees of a marketable species but the land has been designated as forestland by application.

6-6-0 Small Tract Forestland property is vacant land that is under special forestland assessment as Small Tract Forestland by application.

6-6-1 Small Tract Forestland property is land improved with buildings that is under special forestland assessment as Small Tract Forestland by application.

7-0-0 Multi-family land is unimproved land that has multiple housing (five or more living units) as its highest and best use, and the primary zoning is multi-family.

7-0-1 Multi-family property is an improved property that has multiple housing (five or more living units) as its highest and best use. Multi-family property includes property developed as a manufactured housing park.

8-0-0 Recreation land is unimproved land that has recreational use as its highest and best use.

8-0-1 Recreation property is an improved property that provides recreational opportunity as its highest and best use.

Use of Second Digit

0 - Indicates highest and best use and zoning are the same.

1, 2, 3 - Indicates highest and best use and zoning are nonconforming. Example: A property has an improved residence and its highest and best use is for residential use, but it is located in a commercial zone. The property class would be 1-2-1.

4, 5 - Indicates special assessment for farm-use and forest-use lands.

6 - Indicates special assessment for Small Tract Forestland.

7 - Indicates property permanently disqualified from farm or forestland use due to ORS 215.236 (non-farm dwelling).

8 - Indicates property carries more than one special assessment, for example, combination of farm-use and designated forestland or other combination of special assessments; or indicates government-restricted multi-unit rental housing that is specially assessed under ORS 308.701 – ORS 308.724.

9 - Indicates property has potential for further development, for example, it has been subdivided or it is sub-dividable.

Miscellaneous Property: Class 0-0-0

The first digit denotes the major class: Miscellaneous Property.

The second digit indicates the basic class to which the property relates:

0-0 Miscellaneous Property

0-1 Miscellaneous Residential

0-2 Miscellaneous Commercial

0-3 Miscellaneous Industrial

0-4 Miscellaneous Tract

0-5 Miscellaneous Farm

0-6 Miscellaneous Forest

0-7 Miscellaneous Multi-family

0-8 Miscellaneous Recreational

0-9 Miscellaneous Exempt

The third digit is unique to the class:

0- Unbuildable size, Department of Environmental Quality, easement or right-of-way

1- Improvement only

2- Mineral interest

3- Centrally assessed

4- Historic

5- Open space

6- (Left blank)

7- Timeshare property

8- Enterprise zone

9- Manufactured structure

0-0-9 Real property manufactured structure

0-1-9 Personal property manufactured structure

Exempt Property: Class 9-0-0

The first digit defines the property as exempt.

The second digit identifies the type of property or ownership:

9-0 Student housing

9-1 Church

(9) Starting with the 2006–07 tax year, each assessor must pre-pare an annual plan that outlines how the county will comply withthe provisions of this rule no later than the January 1, 2009, assessment date. The plan must be submitted as part of the sales ratio studyand accompanying appraisal plan submitted under ORS 309.200 and 309.203. The plan must address how the county complies with orintends to comply with the provisions of this rule for the initial taxyear and all subsequent tax years up to the 2009–2010 tax year.

Stat. Auth.: ORS 305.100, 308.215 Stats. Implemented: ORS 308.215 Hist: Eff. 3/70, Amended 9/71, 11/73, 1/1/77, 12/78, 12/31/79, 12/31/84, 12/31/87, 12/31/89, 12/31/91, 12/31/93; Amended and Renumbered from OAR 150-308.215(1) to OAR 150-308.215(1)-(A), 12/31/94; Amended 12/31/95, 12/31/97, 12/31/00, 6/30/02, 6/30/05, 7/31/2006.

Exhibit B—Sales Comparison Grid

SALES COMPARISON GRID

Subject Property Address _____ Owner _____

Map and Tax Lot _____ Final Estimate of Value $ _____

Comparables Address Conclusion of Value Basis: _____

1 _____

2 _____

3 _____

Rating: Superior (S), Similar (=), Inferior (I)

Adjust comparable property to the subject property.

SUBJECT PROPERTY CHARACTERISTICS	Comp # 1	Comp # 2	Comp # 3
LAND	Sales Price:	Sales Price:	Sales Price:
	Sales Date:	Sales Date:	Sales Date:
PERCENT ADJUSTMENT FOR CHANGES OVER TIME			
SALES PRICE ADJUSTED FOR CHANGE			
	Description Rating Adjustment	Description Rating Adjustment	Description Rating Adjustment
LOCATION			
Area ☐ Urban ☐ Suburban ☐ Rural			
Values ☐ Increasing ☐ Stable ☐ Declining			
Desirability ☐ High ☐ Average ☐ Low			
NEIGHBORHOOD CHARACTERISTICS			
Built-Up ☐ Over 75% ☐ 25-75% ☐ Under 25%			
Schools Proximity ☐ Average ☐ Below Average			
Public Transportation ☐ Available ☐ Not Available			
Conformity ☐ Homogeneous ☐ Non-Homogeneous			
Adverse Conditions ☐ No ☐ Yes _____			
ZONING			
Classification _____			
Compliance ☐ Legal ☐ Illegal ☐ Legal Nonconforming			
LAND IMPROVEMENTS AND SERVICES			
Road/Street ☐ Public ☐ Private ☐ None			
☐ Paved ☐ Gravel ☐ Dirt			
Sidewalks/curbs ☐ Yes ☐ No			
Utilities Typical for Market Area ☐ Yes ☐ No			
☐ Public ☐ Sewer ☐ Power & Water			
☐ Private ☐ Septic ☐ Well/Spring			
☐ Community			
LOT FEATURES			
Size _____ Base Value $ _____			
Landscaping Good / Avg / Fair Base Value $ _____			
Topography ☐ Level ☐ Sloping ☐ Steep			
View ☐ Excellent ☐ Good ☐ Limited ☐ None			
NET ADJUSTMENT FOR LAND	$ _____	$ _____	$ _____

SALES COMPARISON GRID

SUBJECT PROPERTY CHARACTERISTICS

Rating: Superior (S), Similar (=), Inferior (I)

Adjust comparable property to the subject property.

IMPROVEMENTS

GENERAL DESCRIPTION

	Comp # 1			Comp # 2			Comp # 3		
Single Family Multi-Family: 2 / 3 / 4	Description	Rating	Adjustment	Description	Rating	Adjustment	Description	Rating	Adjustment
Year Built _________ Effective Year Built ________									
General Construction Quality ☐ Good ☐ Average ☐ Fair									
General Overall Maintenance ☐ Good ☐ Average ☐ Def. Maint.									
Total Finished Living Area _______________ sq. ft.									

EXTERIOR

	Comp # 1			Comp # 2			Comp # 3		
Foundation ☐ Conc/Block ☐ Slab ☐ Crawl Space									
Exterior Walls __________________________									
Roof ☐ Gable ☐ Hip ☐ .__________									
Windows ☐ Good ☐ Average ☐ Fair									

INTERIOR

	Comp # 1			Comp # 2			Comp # 3		
Bedrooms # ___________									
Bathrooms # _____Full _____Half Total $___________									
Heating ☐ FA ☐ A/C ☐ Wall ☐ Elec ☐ Gas									
Electrical ☐ Good ☐ Average ☐ Fair									
Fireplace(s) # ___________ Type ____________									
Exterior Brick Chimney Y / N ☐ 1-Story ☐ 2-Story									

KITCHEN

	Comp # 1			Comp # 2			Comp # 3		
Condition ☐ Good ☐ Average ☐ Fair									
Appliances ☐ Good ☐ Average ☐ Fair									

YARD IMPROVEMENTS

	Comp # 1			Comp # 2			Comp # 3		
☐ Good ☐ Average ☐ Fair									

GARAGE/PARKING ☐ None

	Comp # 1			Comp # 2			Comp # 3		
Attached / Detached / Bsmt: # Cars ☐ Oversized									
Carport: # Cars									
RV pad: ☐ Yes									

	Comp # 1	Comp # 2	Comp # 3
NET ADJUSTMENT FOR IMPROVEMENTS	$ ____________	$ ____________	$ ____________
NET ADJUSTMENT FOR LAND BROUGHT FORWARD	$ ____________	$ ____________	$ ____________
FINAL ADJUSTED SALES PRICE	$ ____________	$ ____________	$ ____________
FINAL ADJUSTED SALES PRICE (ROUNDED)	$	$	$
TOTAL ALLOCATION OF LAND	$	$	$
TOTAL ALLOCATION OF BUILDINGS	$	$	$
RATIO OF LAND TO BUILDINGS	:	:	:

Exhibit C—Description of Subject Property

LAND CHARACTERISTICS

Location

Address: 1936 Mossy Rock Court, Salem, Oregon

The subject property is a single family dwelling of average quality construction and in better than average overall condition. It is located in a suburban area near the city of Salem. Values are increasing in the highly desirable neighborhood due to its close proximity to the Willamette River.

Neighborhood Characteristics

Community facilities are all located within a convenient distance to the subject property and include adequate schools of all levels. Shopping facilities are conveniently located, and the neighborhood is serviced by a municipal bus system.

The subject neighborhood is from 10 to 20 years old with most residential development occurring within that time frame. The area is approximately 90 percent built up and is generally composed of average quality, well-maintained single family dwellings similar to the subject property. There were no adverse conditions noted in the area.

Zoning

Development in the area is consistent with current zoning and includes primarily three and four bedroom, single family dwellings in the R-1 (Residential Single Family) zone.

Improvements and Services

Access is provided by a paved public street with curbs, gutters and sidewalks. All public services including sewer, water, power, and other utilities are available and in use throughout the area.

Lot Features

The subject property is a level rectangular lot approximately 80 x 100 feet. The owner has obviously spent much effort on landscaping, with a good balance between flower gardens, trees and shrubbery. The lot is within three blocks of the Willamette River, and affords a limited view of the river. The lot is not located within a 100-year flood zone per the city's flood zone map.

IMPROVEMENT CHARACTERISTICS

General Description

Year Built: 1997 Effective Year Built: 2002 2-Story

Finished Living Area: 2,164 square feet

Exterior

Foundation:	Continuous Concrete
Exterior Walls:	Wood / Hardiplank with stone trim
Roof:	Gable with gutters and downspouts
Windows:	Average per class

Interior

Bedrooms:	4
Heating:	Forced Air gas with Air Conditioning
Electrical:	Average per class
Fireplace:	Single gas fireplace
Utility Room:	Average per class
Kitchen:	Average per class with built-ins average per class
Bathrooms:	2 Full Baths, 1 Half Bath
Other:	Living, Family & Dining Rooms

Yard Improvements

Porch, driveway, patio: Average

Garage/Parking

Garage: Attached, 2-car

General Construction Quality: Average

General Exterior Condition: Good

General Interior Condition: Good

Exhibit D—Description of Comparable #1

LAND CHARACTERISTICS

Location

Address: 1815 Fern Drive, Salem, Oregon

The property is a single family dwelling of average quality construction, and shows some deferred maintenance for its age. It is located in a suburban area near the city of Salem. Values are increasing in the highly desirable neighborhood due to its close proximity to the Willamette River.

Neighborhood Characteristics

Community facilities are all located within a convenient distance to the property and include adequate schools of all levels. Shopping facilities are conveniently located, and the neighborhood is serviced by a municipal bus system.

The neighborhood is from 10 to 20 years old with most residential development occurring within that time frame. The area is approximately 90 percent built-up and is generally composed of average to good quality, generally well-maintained single family dwellings. There were no adverse conditions noted in the area.

Zoning

Development in the area is consistent with current zoning and includes primarily three and four bedroom, single family dwellings in the R-1 (Residential Single Family) zone.

Improvements and Services

Access is provided by a paved public street with curbs, gutters and sidewalks. All public services including sewer, water, power, and other utilities are available and in use throughout the area.

Lot Features

The property is a level rectangular lot approximately 80 x 100 feet. Landscaping is considered fair with most of the lot covered by a lawn and a few shrubs. The property is situated within three blocks of the Willamette River but has no view of the river. The lot is not located within a 100-year flood zone per the city's flood zone map.

IMPROVEMENT CHARACTERISTICS

General Description

Year Built: 1997 Effective Year Built: 1992 2-Story

Finished Living Area: 2,090 square feet

Exterior

Foundation: Continuous Concrete

Exterior Walls: Cedar, Lap

Roof: Gable with gutters and downspouts

Windows: Average per class

Interior

Bedrooms: 4

Heating: FA gas

Electrical: Average per class

Fireplace: Two gas fireplaces with a 2-story exterior brick chimney

Utility Room: Average per class

Kitchen: Average per class with built-ins average per class

Bathrooms: 2 Full Baths, 1 Half Bath

Other: Living, Family & Dining Rooms

Yard Improvements

Porch, deck, driveway: Fair

Garage/Parking

Garage: Attached, 2-car oversized with work area and RV pad

General Construction Quality: Average

General Exterior Condition: Fair

General Interior Condition: Fair

Sales Date: 3 months ago

Sales Price: $286,000

Exhibit E—Description of Comparable #2

LAND CHARACTERISTICS

Location

Address: 2121 Steens Circle, Salem, Oregon

The property is a single family dwelling of average maintenance and built of average quality construction materials. It is located in a suburban area near the city of Salem. Values are increasing in the highly desirable neighborhood due to its close proximity to the downtown core shopping and business center and potential view of the Cascade Mountain Range.

Neighborhood Characteristics

Community facilities are all located within a convenient distance to the property and include adequate schools of all levels. Shopping facilities are conveniently located, and the neighborhood is serviced by a municipal bus system.

The neighborhood is from 10 to 20 years old with most residential development occurring within that time frame. The area is approximately 90 percent built up and is generally composed of average quality, generally well maintained single family dwellings. There were no adverse conditions noted in the area.

Zoning

Development in the area is consistent with current zoning and includes primarily three and four bedroom, single family dwellings in the R-1 (Residential Single Family) zone.

Improvements and Services

Access is provided by a paved public street with curbs, gutters and sidewalks. All public services including sewer, water, power, and other utilities are available and in use throughout the area.

Lot Features

The property is a level rectangular lot approximately 78 x 90 feet. Landscaping is considered average with most of the lot covered by a well-kept lawn, a few shrubs, and several small evergreen trees. The property is located several blocks from the Willamette River and has a good view of the Cascade Mountain Range. The lot is not located within a flood zone per the city's 100-year flood zone map.

IMPROVEMENT CHARACTERISTICS

General Description

Year Built: 1997 Effective Year Built: 1997 2-Story

Finished Living Area: 2,275 square feet

Exterior

Foundation:	Continuous Concrete
Exterior Walls:	Composite (Hardiplank) with stone trim
Roof:	Gable with gutters and downspouts
Windows:	Average per class

Interior

Bedrooms:	4
Heating:	FA gas with air conditioning
Electrical:	Average per class
Fireplace:	Stacked fireplaces with an exterior 2-story brick chimney
Utility Room:	Average per class
Kitchen:	Average per class with built-ins average per class
Bathrooms:	3 Full Baths
Other:	Living, Family & Dining Rooms

Yard Improvements

Porch, deck, patio, driveway: Average

Garage/Parking

Garage: Attached, 2-car

General Construction Quality: Average

General Exterior Condition: Average

General Interior Condition: Average

Sales Date: 4 months ago

Sales Price: $312,000

Exhibit F—Description of Comparable #3

LAND CHARACTERISTICS

Location

Address: 936 21st Street NE, Salem, Oregon

The property is a better-than-average maintained single family dwelling located in a suburban area near the city of Salem. It is constructed of average quality materials. Values are increasing in the highly desirable neighborhood due to its close proximity to the Willamette River.

Neighborhood Characteristics

Community facilities are all located within a convenient distance to the property and include adequate schools of all levels. Shopping facilities are nearby and a municipal bus system has a route only two blocks away.

The neighborhood is from 10 to 20 years old with most residential development occurring within that time frame. The area is approximately 95 percent built-up and is generally composed of average quality single family dwellings. There were no adverse conditions noted in the area.

Zoning

Development in the area is consistent with current zoning and includes primarily three bedroom, single family dwellings in the R-1 (Residential Single Family) zone.

Improvements and Services

Access is provided by a paved public street with curbs, gutters and sidewalks. All public services including sewer, water, power, and other utilities are available and in use throughout the area.

Lot Features

The property is a level rectangular lot approximately 90 x 100 feet. Landscaping is considered good with a pleasant mixture of a well-kept lawn, several shrubs, and a few small trees. The property is situated within one block of the Willamette River and has a limited view of the river. The lot is not located within a 100 year flood zone per the city's flood zone map.

IMPROVEMENT CHARACTERISTICS

General Description

Year Built: 1998 Effective Year Built: 2003 2-Story

Finished Living Area: 2,100 square feet

Exterior

Foundation: Continuous Concrete

Exterior Walls: Good quality painted siding

Roof: Hip with gutters and downspouts

Windows: Average per class

Interior

Bedrooms: 4

Heating: Electric FA with A/C

Electrical: Average per class

Fireplace: Single gas

Utility Room: Average per class

Kitchen: Average per class with built-ins average per class

Bathrooms: 2 Full Baths, 1 Half Bath

Other: Living, Family & Dining Rooms

Yard Improvements

Porch, deck, patio: Good

Garage/Parking

Garage: Attached, 2-car oversized with work area

General Construction Quality: Average

General Exterior Condition: Good

General Interior Condition: Good

Sales Date: 2 months ago

Sales Price: $310,000

Exhibit G—Adjustment Values for Demonstration Project

Below is a list of adjustment costs and values for use in Lesson 3 of the Sales Comparison Approach to Value. These values are for demonstration purposes only for this project. For an actual appraisal, you would use adjustment values extracted from your market area obtained from several sources including cost factor books, contractors, sales people, and catalogs.

Adjust sales for changes over time at 1 percent per month.

Site Base Value	**Adjustment/Value**
(Based on size, includes system development charges)	
9,000 sq. ft.	$120,000
8,000 sq. ft.	$115,000
7,000 sq. ft.	$110,000
Landscaping	
Good	$7,000
Average	$5,000
Fair	$3,000
View	
Limited	$15,000
Good	$25,000
General Overall Maintenance	
Good Upkeep	$10,000
Average Maintenance	No Adjustment
Deferred Maintenance	$10,000
Finished Living Area - per sq ft	$75
Air Conditioning	$1,500
Fireplace	
Direct Vent, gas	$2,500
Stacked, masonry	$7,000
Exterior brick chimney - per story	$800
Bathroom	
Half Bath	$2,000
Full Bath	$4,000
Yard Improvements (driveway, deck, patio, etc.)	
Good	$12,000
Average	$8,000
Fair	$4,000
Garage/Parking	
Oversized with work area	$3,000
RV pad	$2,000

The Income Approach to Value

A Self-Study Course for Assessors and Appraisers

Revised by Property Tax Division
Oregon Department of Revenue
June 2007

The Income Approach to Value

Foreword

The instructional material in this book will provide assessors and appraisers an understanding of a method for valuing income producing properties. On completion of this material, the interested learner will be able to accomplish the following performance objectives:

- Estimate the market or economic rent for a property.
- Calculate effective gross income for a property.
- Estimate what expenses are necessary and proper to maintain the income flow for a property.
- Calculate and apply capitalization rates to income as a method of estimating market value.

Since this is meant to be an introduction to the use of the income approach to value, more sophisticated methods which apply directly to complex properties have been omitted.

Introduction

You are preparing for your duties as an appraiser for your county. You have already studied the sales comparison and the cost approaches to estimate value on real property—that is, land, buildings, and other improvements.

In this session of your training you will learn another method for valuing real property, the income approach.

You will work with the material in this publication in much the same way as you did with the previous lessons on the cost and the sales comparison approaches. You must read the material. Then you will respond by answering a question (many times you will be given choices to select the correct answer), filling in a blank, or solving a problem. Remember to be sure to make a response. This is part of the learning process.

The correct answers to all responses will appear in an Answer Section at the end of each lesson.

Now, let us learn about the income approach to value.

Table of Contents

Lesson 1: Rent—The Basis for the Income Approach

Types of Rent Information

Some types of property are bought and sold on the basis of their ability to produce income. To appraise these properties, appraisers rely heavily upon the income approach to value.

1.1

Rent is the major source of income from real property. If we use rent in appraising the value of a property, we are using the _____ (income approach / cost approach / sales comparison approach) to value.

1.2

Pat Sampson owns a building. Chris Henry uses the building by operating a hardware business. The monthly payments that Chris Henry makes to Pat Sampson (which are Pat's income) for use of the property are normally called _____. (billings / rent / charges)

1.3

When you gather the information for an appraisal using the income approach, you need rental information. You will also want to know more about the rent than what the tenants are paying now. You need to know what the tenants were paying in the recent past (two or three successive years, if possible), and the current rents on other comparable properties.

Rent paid in past years is called historical rent. The actual rent presently paid by agreement between the user and the owner is called contract rent.

Contract rent is usually calculated per square foot per year on income properties such as offices and stores. When dealing with apartments, the usual practice is to calculate contract rent per square foot per year or per unit per year.

A few years ago, when the Wyatt Building was new, office space rented for $15.00/sq.ft. per year. Now office space is being rented by Jean Jones for $16.50/sq.ft. per year.

For appraisal purposes, the $15.00/sq.ft. figure would be called _____ (historical rent / contract rent) and the $16.50/sq.ft. figure represents _____. (historical rent / contract rent)

1.4

Let us discuss contract rent a little. Contract rent is the current income resulting from the terms of a rental contract or a lease. (A lease, as you know, is a short- or long-term rental contract.)

Terry Brown rents a property from Kim Smith for one year, and agrees to pay $2.00/sq.ft. per month. As an appraiser, you would consider this data _____ (historical rent / contract rent) information.

1.5

To get annual contract rent data using the information above, you would simply multiply the monthly rent by _____ (12 / 24 / 6) and the annual contract rent would be _____. ($12 per sq. ft. per year / $24 per sq. ft. per year / $36 per sq. ft. per year.)

1.6

In general, in appraisal work, you should typically think of contract rent in terms of a(n)

a. monthly figure
b. annual figure
c. daily figure

1.7

You know what contract rent is, and how to get the data into a form you can use, but you also need to know where to get accurate information. The key is, "Use the head to save the feet."

But remember, the appraisal process will be accurate only if accurate data is used.

Some sources of contract rent data are:

- The person or company renting or leasing the property. (The legal term for the person or company using the property is lessee.)
- The owner of the property (legal term: lessor).

- The real estate agent (if the property has recently been sold, or if the property is rented, leased, or managed by an agent).

Now, if the lessee (user) and the lessor (owner) are readily available, and in the same location, you have two potential information sources for contract rent.

But, if you live in Salem, and have the following situation:

Lessor: Lives in Seattle, Washington; vacations in California

Lessee: Rents small warehouse in Salem; travels a lot and is rarely home; lives in Albany

Real Estate Agent: Hired by lessor to manage property; office in Salem

List in order your first, second, and third choice to get the information:

1. _____
2. _____
3. _____

1.8

When a real estate agent is familiar with the property, they often know the quickest and easiest source of accurate contract rent information.

To sum up this point, the user and the owner of an income property are the principal parties to a rental lease agreement. In legal terms the user is called the _____ (lessee / lessor) and the owner is called the _____. (lessee / lessor)

1.9

Frequently, a real estate agent acts as an intermediary between the lessee and lessor, or as a sales agent. If the property has recently been sold, the agent may have accurate information needed by an appraiser valuing a rental property by the _____. (sales comparison approach / income approach / cost approach)

1.10

The type of rent information that can be determined from the present lease or rental agreement is called _____ (contract / market / historical) rent information.

1.11

As an appraiser using the income approach, the initial income information you receive may be in the form of either annual or monthly figures. To conform to standard appraisal practice, you will want to convert all income to a(n) _____ basis. (annual / monthly / bi-annual)

1.12

Now look at another kind of rent information that is valuable to you when using the income approach. It is called historical rent and it was mentioned briefly earlier. We are going to discuss it in more depth here. Historical rent is the amount for which a property has rented for each of the past several years.

In other words, it is not contract rent, but the rent paid the year before the current contract and for each of the several years before that. What do we call rent that was agreed to and paid three years ago? _____ (contract / market / historical)

1.13

You may ask, "How and why do we use historical rent information in appraising property by the income approach?" Well, it is always necessary to check out contract rent data for validity. Sometimes the current contract rent is not in line with what you think it ought to be, or with what comparable properties are renting for. The following situation will show how you can estimate the validity of contract rent by using historical rent information.

Situation:

Dale Jackson rented a small warehouse from Terry Vaughn three years ago at the prevailing market rate. The annual rent was $40,000. Two years ago Dale Jackson rented the property for $40,500. Last year the rent was $41,000. This year Shawn King desperately needs an extra warehouse for a moving company and offers Terry Vaughn $43,000 rent for the warehouse. Vaughn signs a lease this year with Shawn King for that amount.

All other things being equal, does the present contract rent of $43,000 reflect the true rental value of the warehouse? _____ (yes / no)

1.14

Looking at the historical rent for the warehouse in our example, you see that rent increased at the rate of $500 per year (three years ago — $40,000; two years ago — $40,500; last year — $41,000). King has a lease for the current year which shows an increase of four times the standard historical rent increase, or $2,000 increase in one year. This indicates that, in comparison with the true rental value, the current contract rent is:

a. standard
b. lower
c. higher

1.15

To obtain contract rent information, we went to the lessee, lessor, and real estate agent for information. To find historical rent information, logic leads us to _____ (previous / current) lessees, lessors, agents, and appraisal reports on file in the assessor's office.

1.16

We have discussed two types of rent that are used in the income approach to value. The first deals with presently agreed-upon rent being paid and it is called _____. (historical / contract / market)

1.17

The second deals with rent on an annual basis which was agreed to and paid in the past. It is called _____. (historical / contract / market)

1.18

Using the two types of rental information and some simple logic, you can derive, or closely approximate, a third type of rent information. This type of rent is called market or economic rent. Market rent is the most probable rent a property would command in the open market.

Various economic factors are analyzed to estimate market rent, and you are probably familiar with all of them in one way or another. But let us take a look at some of the factors to be sure we are thinking along the same lines.

Suppose the country has been in a period of economic recession for a year and a half. Historical rent data indicates a constant 10 percent increase over the preceding five years. If all other factors have remained constant, the current rent will probably show a _____ (higher / lower) rate of increase.

1.19

A large factory is being built close to a town. No new construction has begun on new housing facilities. Demand for housing is up because of the factory construction and new factory jobs. You would expect rent for dwelling space in that area to _____. (increase / decrease / remain the same)

1.20

Several warehouses have been built in anticipation of new business moving into the area. Until the new warehouse space is leased up and the market is in balance again, the owners of older existing warehouses must expect _____ (an increase / a decrease / no change) in income.

1.21

We can conclude that historical rent, contract rent, and various other factors must all be considered when establishing _____ (contract / market / historical) rent.

Information on comparative properties provide data for estimating market rent as well as other market data useful and needed for appraisal purposes. You can "dig out" this information from owners, tenants, real estate agents, and brokers in the area, or perhaps previous tax appraisals.

Now focus on how to develop and use comparative properties data in estimating market rent for the subject property (the property that is the subject of the income approach appraisal).

We are going to estimate the market rent for a subject property that is currently used as a retail clothing store. You will be asked to convert various types of information into standard information format, make some judgments, and assess whether the information is directly applicable, or partially applicable, or does not apply at all. First, read through the data presented. Then we will go back and work through the items we need to determine the economic market rent of the subject.

DATA FOR ESTIMATING MARKET RENT FOR A SUBJECT PROPERTY

(All properties included below are in the same location.)

Subject Property	Use:	clothing store
	Size:	7,500 square feet (one floor)
	Contract rent:	$48,750 per year
Property A	Use:	grocery store
	Size:	80′ x 90′ (one floor)
	Contract rent:	$52,200 per year
Property B	Use:	grocery/dry goods
	Size:	80′ x 80′ (on each of two floors)
	Contract rent:	$6,132 per month
Property C	Use:	drug store
	Size:	100′ x 70′ (one floor)
	Contract rent:	$4,375 per month
Property D	Use:	drug store/grocery store
	Size:	120′ x 150′ (one floor)
	Contract rent:	$99,000 per year

The first step is to convert the information presented into comparable units.

1.22

Since we need square footage information rather than dimensions, convert the data by multiplying the two dimensions. For example, if the size is 10′ x 20′ it equals _____ (100 / 200 / 2000) square feet.

1.23

Also, we want contract rent, so multiply monthly rent by the number of months in a year. If the rent is $4,000 per month, the contract rent is _____. ($24,000 / $40,000 / $48,000)

1.24

We also want to calculate (annual) contract rent per square foot. If the annual contract rent for 7,500 square feet is $42,000, the annual contract rent per square foot is _____. ($5.00 / $5.60 / $6.00)

1.25

A simple chart can be used to aid us in analysis. Please fill in this chart, using the data in the table (**DATA FOR ESTIMATING ECONOMIC RENT)** above.

	Use	Size-Square Feet	Number of Floors	Contract Rent	Rent/SF/Year
Subject					
Property A					
Property B					
Property C					
Property D					

1.26

The subject property we are working with is a retail store, utilizing 7,500 square feet of floor space on one floor, with a contract rent of $48,750. We want to estimate the market rent of our subject. Which of the properties appear(s) similar enough to give you useful data? _____ (A / B / C / D)

As you gain experience in appraising, you will note other factors of similarity or dissimilarity for determining comparable properties, and refining your estimates. (Some other units of comparison have probably already occurred to you, like parking facilities, front footage, air conditioning, etc.)

1.27

Bracketing is a two-part technique used to help you arrive at a value for a subject using comparable properties' data. First, you exclude obvious misfits from consideration, and second, you assign plus or minus values to the remaining comparable properties, depending on how well they compare with your subject.

If your subject is a 1,000 square foot, wood-frame, one-story building, and you have information on a brick, three-story, 5,000 square foot building, you _____ (would / would not) choose it as a comparable property.

1.28

How does all this apply to market rent?

Check the rent of the comparable properties A and C. A rents for $7.25/sq.ft./yr., and C rents for $7.50/sq.ft./yr. The subject property rents for $6.50/sq.ft./yr. This suggests that the market/economic rent of the subject may be _____ (higher / lower) than the contract rent.

1.29

Here are the major factors to be considered:

Subject	$6.50/sq.ft
Property A	$7.25/sq.ft.
Property C	$7.50/sq.ft

Since we do not have comprehensive information, we can approximate a market rent by bracketing. This technique is useful in quickly estimating approximate value.

We notice from the information that the greater the square foot area, the lower the rent per square foot. Property A has 200 square feet more than Property C, but it rents for $_____ ($.20 / $.25 / $.30) less per square foot.

1.30

The subject property presently rents for $6.50 per square foot and has a total area of 7,500 square feet. Using a bracketing technique, what should the subject's rent per square foot be? _____

1.31

What other types of information should we consider to give us a more valid appraisal of economic rent in an income approach to value?

- future potential business
- historical rents
- present economic factors
- previous tax appraisals on the property

EXERCISE 1

To assure yourself of your knowledge to this point in the program, please take a few minutes to answer these questions as completely as possible.

1. You have been assigned a rental property to appraise. The property consists of four stores in a small shopping center complex. In order to appraise the property using the income approach to value, you need to establish the market rent for the property. List the data you need to establish the market rent and the sources you can use to obtain this data.

   Data **Sources**

2. Kim Talbot owns a four-unit apartment house; each apartment contains six rooms (including a living room, kitchen, bath, and three bedrooms). Each apartment is leased at present at $65 per room per month. (Historical data is to be ignored.)

   There are three other four-unit apartment houses in the market area of similar size and construction. Apartment house A contains 2-bedroom apartments with living room, kitchen, and bath, renting for $70 per room per month. Apartment house B contains 3-bedroom apartments with living room, kitchen, and bath, renting for $77.50 per room per month. Apartment house C also contains 3-bedroom apartments with living room, kitchen, and bath, renting for $72.50 per room per month.

   a. What is the contract rent for Kim Talbot's apartment house?

      _____

   b. What is the market rent Kim Talbot's apartment house?

      _____

3. The rent that a subject property has commanded for various past periods of time is called _____.
4. Rent received by the owner for a property under a yearly rental agreement is called _____.
5. The income which a property should command on the open market at any given time is called _____.
6. A property has a contract rent of $525 per month. Five similar properties in the area rent for $510, $530, $600, $520, and $490 per month. The subject property rented for $500 last year and $490 the previous year. By bracketing, what monthly range would you estimate its economic rent to be? _____

Estimating Potential Gross Income

Gross income is one of the major factors needed to estimate property value by the income approach. During this part of the course you are going to learn what kinds of items or factors make up gross income. You will also learn ways to determine the difference between income and expense items as listed on financial reports.

1.32

Earlier you read that rent is the major portion of income for a property. And you have learned that when using the income approach to value, the appraiser must find out the contract rent and the historical rent in addition to other available factors to estimate the _____ (contract / historical / market) rent of the property.

All income, including rent, is considered in estimating gross income. Potential Gross income may be defined as a property's market rent at 100% occupancy plus earned income from services, if any. Effective gross income is equal to the potential gross income less an allowance for vacancy and collection losses.

1.33

Please study the list below and, drawing from your experience, select the item that is probably not a component of income.

	Component of Income?
• electricity charged to user	(yes / no)
• laundry room receipts	(yes / no)
• repairs to fixtures	(yes / no)
• parking fees	(yes / no)
• rent	(yes / no)

1.34

Try the same question from the other direction. Which item below is probably not a component of expense?

	Component of Expense?
• supplies	(yes / no)
• vending machine receipts	(yes / no)
• janitorial services	(yes / no)
• maintenance and repairs	(yes / no)
• utilities	(yes / no)

1.35

Potential gross income is _____ (contract / market / historical) rent at 100 percent occupancy plus earned income from services.

1.36

Gross income is made up of _____ and earned _____ .

You are assigned a property to appraise. Gross income information on comparable properties is needed. You search through tax files and contact owners and real estate agents and obtain the following two income/expense statements. Please study them for income information.

STATEMENT 1
Bedford Apartments
Income/Expense Statement

Rent	$40,000	
Parking	7,600	
Total Income		$47,600
Manager's Salary	$3,200	
Janitor's Salary	2,200	
Supplies	450	
Utilities	3,440	
Taxes	4,200	
Total Expense		$13,490

STATEMENT 2
Major Apartment Homes
Income/Expense Statement

Lease Receipts	$55,000	
Total Income		$55,000
Salaries	$4,400	
Repairs	3,575	
Supplies	1,650	
Utilities	3,560	
Taxes	6,620	
Insurance	1,325	
Total Expense		$21,130

Some brief questions concerning these income/expense statements will ensure that you understand the points we have covered. (Note: Assume contract rent is equal to market rent when answering these questions.)

1.37

In Statement 1, is gross income equal to rent? _____ (yes / no)

1.38

In Statement 2, is gross income equal to rent? _____ (yes / no)

1.39

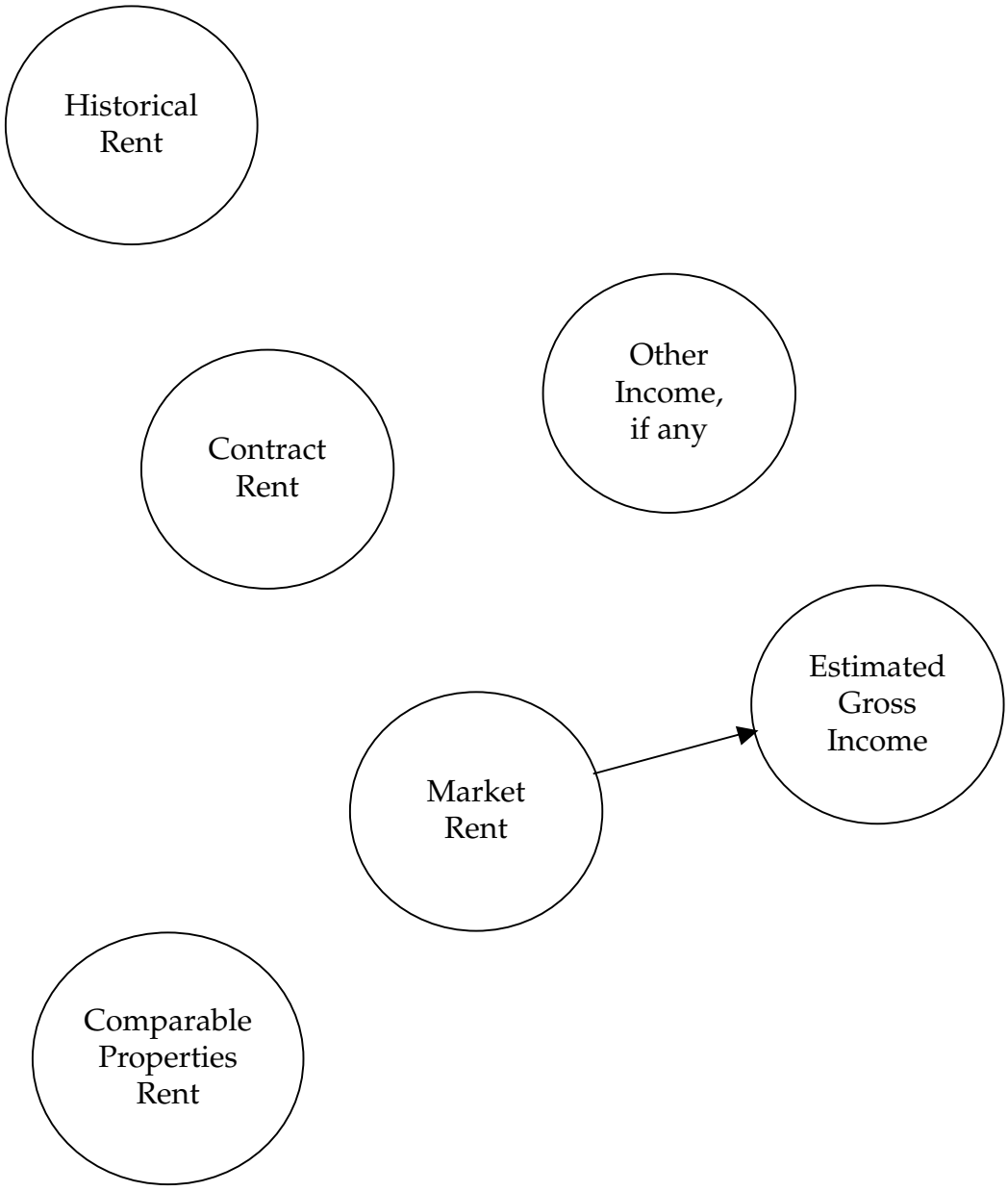
We could assume that rent and lease receipts in both statements are _____ (contract / market / historical) rent.

1.40

If we had not assumed that contract rent was equal to market rent above, could we have estimated the potential gross income for appraisal purposes? _____ (yes / no)

1.41

Now let's review what you have learned so far. Recalling the factors discussed in the two sections you have just read, connect the bubbles by arrows to show logical development of the information suggested by the labels in each bubble. (We have done the first one to set the pattern.)


Historical Rent
Other Income, if any
Contract Rent
Estimated Gross Income
Market Rent
Comparable Properties Rent

EXERCISE 2

Please complete the following exercises.

1. You have been given a property to appraise, and the only information available is the income/expense statement below. In the columns to the right, mark whether the item is an Income or an Expense item.

Income/Expense Statement

		Income	Expense
Apartment rentals income	$65,550	_____	_____
Electricity charges to tenants	2,660	_____	_____
Supplies	1,850	_____	_____
Janitorial services	3,620	_____	_____
Maintenance and repairs	2,500	_____	_____
Utilities	4,588	_____	_____
Insurance premiums	1,396	_____	_____
Taxes	7,580	_____	_____
Depreciation	6,500	_____	_____
Washer and dryer receipts	1,640	_____	_____

Listing the items used, compute the estimated gross income.

2. The best document for obtaining information concerning the sources of income for a property is a(n) _____. (tax appraisal statement / income/expense statement / rental agreement)

3. Gross income is determined using the following two factors:

_____ plus _____ .

4. Rent, as stated in an income/expense statement, is equal to which of the following:

- other income
- market rent
- contact rent
- gross income

Gross Income Multipliers

Gross income multipliers (GIM) give us one way of estimating value for income (rental) property. While this technique may be used in either the income approach or the sales comparison approach, for this course, we will be using it as one technique of the income approach.

In this section, you will learn what a gross income multiplier (GIM) is; why a GIM is used; where a GIM is used; and how to determine a GIM.

1.42

A gross income multiplier (GIM) is a measuring device. It is a tool used in valuing property by the income approach.

Suppose you are appraising a property, and you have estimated its gross income. You might use the GIM method to estimate the property's _____.

The GIM can be defined as:

The gross income multiplier is the ratio of the selling price of a property to the gross income produced by the property.

Ratios are simple ways to express relationships. Suppose you are meeting your friend for lunch. Your friend has to walk two blocks to the restaurant and you have to walk ten blocks. Another way of saying this is that for every block your friend walks, you have to walk five.

Here's what we did: to start out with, the ratio is:

2 blocks to 10 blocks

Dividing the smaller number into itself AND into the larger number gives us:

1 to 5

1.43

A GIM is a ratio just like the ratio of the number of blocks your friend walks to the number of blocks you walk. A GIM expresses the relationship of selling price of a property to _____.

1.44

It may be easier when working with larger numbers to express the ratio of gross income to selling price this way:

gross income x GIM = selling price (value)

Suppose the subject property has a gross income of $20,000, and it sold for $120,000 a month ago. What is the GIM? _____

1.45

If the gross income rent had been $30,000, and the GIM had been estimated (from analysis of similar properties) to be 9, what should the property sell for? _____

1.46

The gross income multiplier is established by analyzing data from comparable properties. It is important to note that **comparable properties must be similar in all aspects**.

If you have estimated the ratio of selling price to gross income of comparable properties, you can then apply the ratio to the _____ of the subject property to estimate its value.

1.47

In addition to being a primary method for estimating the value of properties, the gross income multiplier technique is a quick way to check the validity of property value estimated by using other methods. It is a useful tool, one that an appraiser needs to know how to use.

The formula for the GIM can be arranged in several correct ways. You studied one previously in this course. Is this formula correct? _____ (yes / no)

gross income multiplier = sales price ÷ gross income

1.48

The third, and final way to write the equation is:

$$\text{gross income} = \frac{\text{sales price}}{\text{gross income multiplier}}$$

Or,

_____ x _____ = _____

1.49

Now we will work with the formula and some comparability analysis that you have already used in this section, to practice estimating property value.

To determine a gross income multiplier, two things must be known:

1. The sales price for an income-producing property, and
2. The _____ for the property (before expenses, taxes, or other items are deducted from it).

1.50

What is the gross income multiplier for each of the following properties? (Show your work.)

Property A: Sold two months ago for $450,000. The annual gross income is $90,000. The gross income multiplier is _____.

Property B: Sold six months ago for $311,100. The annual gross income is $37,500. The gross income multiplier is _____.

1.51

In order to use gross income multipliers to estimate the value of income-producing property, it is also necessary to obtain certain market data. Suppose that you have been assigned an income-producing property to appraise, namely, a four-unit apartment complex containing two-bedroom apartments, with a gross income of $35,070/year.

In checking with a local real estate agent, you find that a similar property containing four two-bedroom apartments recently sold for $235,000. The agent also has information showing an annual gross income for that property of $33,570. Another property containing four two-bedroom apartments sold for $210,000. Its gross income was $30,000.

By using the sales data and the gross income data, you can establish a gross income multiplier of _____.

1.52

Using our GIM formula, but regrouping the words, we find:

gross income x GIM = _____

1.53

Now, apply this formula to the previous example. The annual gross income for the property is $35,070. You have established a gross income multiplier of 7. Therefore, an estimate of value for the property is $_____.

1.54

Using a gross income multiplier of 5.7, what is the value of a property with an annual gross income of $32,550? _____.

In the first example on gross income multipliers, the multiplier from only one similar property was used. Using only one similar property would not necessarily give an accurate gross income multiplier. When using a GIM method for estimating the value of a property, you should have sales and income data from at least four or more comparable properties.

You are assigned a property to appraise. You have concluded that the income approach to value is the most appropriate. You've found four comparable properties, determined their selling prices and gross income. You want to determine the best gross income multiplier to use to estimate the value of the subject property. Use the bracketing technique as follows:

1. Compute GIM for each comparable property using:

$$\frac{\text{Selling Price (SP)}}{\text{Gross Income (GI)}} = \text{GIM}$$

2. Remove any out-of-line (nonconforming) GIM's from consideration.
3. Assign plus or minus values to remaining GIM's based on factors that make the comparable properties better or worse than the subject, such as land to building ratio, size of the improvements, age, condition, etc.
4. Assign GIM to subject.

1.55

Now try one. The subject has a gross income of $35,000 per year.

Comparable properties information is listed below, with a plus or minus valuation already assigned.

A.	+	SP	$375,000	GI	$50,000
B.	-	SP	$230,010	GI	$34,850
C.	-	SP	$364,975	GI	$22,460
D.	+	SP	$250,000	GI	$34,482

What are the GIM's for

A. _____ B. _____ C. _____ D. _____?

1.56

Now, what is your estimate of the GIM and value for the subject property?

GIM _____ Value _____

1.57

Try another.

The subject has an annual gross income of $58,000. Comparable properties information is listed below with plus or minus valuation assigned and the GIM of each.

A.	-	SP	$540,000	GI	$54,000	GIM	10
B.	+	SP	$600,000	GI	$50,000	GIM	12
C.	+	SP	$450,000	GI	$25,000	GIM	18
D.	-	SP	$261,900	GI	$27,000	GIM	9.7
E.	+	SP	$356,400	GI	$71,280	GIM	5

What is the estimated GIM of the subject?

_____

1.58

Suppose you are asked to appraise a 7-year-old apartment building containing four 3-bedroom apartments. The property is brick, and in an excellent location, close to schools, shopping, and transportation. Rents for the apartment building you are to appraise include utilities. You need comparable properties data. Select the three most logical comparable properties from the following:

Sale No.	Comparable
1	Four 1-bedroom apartment building; 15-years-old; utilities included in rent; sold six months ago for $145,800; annual gross income of $21,600.
2	Four 3-bedroom wood frame apartment building; built six years ago; poor neighborhood; utilities included in rent; sold 18 months ago for $145,800; annual gross income of $20,800.
3	Four 3-bedroom wood frame apartment building; 7-years-old; low income neighborhood utilities included in rent; sold four months ago for $115,500; annual gross income of $11,800.
4	Four 3-bedroom brick apartment building; 18-years-old; good location; utilities not included in rent; sold six months ago for $128,000; annual gross income of $16,300.
5	Four 3-bedroom brick apartment building; 8-years-old; excellent location; utilities included in rent; sold eight months ago for $145,800 annual gross income of $22,852.
6	Four 3-bedroom brick apartment building; 8-years-old, convenient to schools, shopping, and transportation; utilities included in rent; sold two months ago for $128,000; annual gross income of $18,285.
7	Four 3-bedroom brick apartment building; 6-years-old, good neighborhood; utilities included in rent; sold six months ago for $138,000; annual gross income of $21,330.

Which three would you select as comparable properties? _____

1.59

The annual gross income for the subject apartment building is $21,465. Now, use the data for the other comparable properties to determine the gross income multiplier.

The data is charted as follows:

	Sale Price	Gross Income	GIM
Sale 5	$145,800	$22,852	6.38
Sale 6	128,000	18,285	7.00
Sale 7	138,000	21,330	6.47

Determine the gross income multiplier based on the three comparable properties from above, and the value of the subject.

GIM _____ Value _____

EXERCISE 3

Check your progress by completing the following exercises.

1. Below are listed sale prices and gross incomes for three properties. Calculate the gross income multipliers for each of the properties:

	Sale Price	Gross Income	GIM
Property A	$264,600	$40,700	_____
Property B	166,800	23,170	_____
Property C	287,750	46,400	_____

2. You are appraising a single-story store building. Its gross income is $36,280. The building is 1,600 square feet. You have computed the GIM's of comparable buildings in the area. Their data are as follows:

	Size	GIM
Store 1	1,700 sq. ft.	6.5
Store 2	1,500 sq. ft.	7.2
Store 3	1,200 sq. ft.	6.2

Use the bracketing technique to determine the approximate gross *income* multiplier and the approximate value of the building.

GIM _____ Value _____

Lesson 1: Answers

1.1

Income approach

Because rent is the prime source of income from property

1.2

Rent

Income is what the owner gets, but rent is what the payment is called.

1.3

Historical rent . . . contract rent

1.4

Contract rent

1.5

12 . . . $24.00/sq.ft.

That simple arithmetic is used often because when using the income approach for establishing property value, individual factors are computed on a yearly basis. But you will often get initial data on a monthly basis.

1.6

b. Annual figure

1.7

It is your choice and your feet.

We would suggest the agent first, lessor second, and lessee third, because the agent is in the town and probably has the information handy; the lessor is either in one place or the other but easier to catch up with than the lessee and may have property information close at hand.

1.8

Lessee . . . lessor

1.9

Income approach

1.10

Contract

1.11

Annual

1.12

Historical rent

1.13

No

Right, because King has made an agreement under unusual circumstances and has not sought a rent that a willing lessee would pay a willing lessor, in a competitive market. King is a willing lessee all right, but the lessor used an unusual and momentary supply and demand situation to derive a very high rent.

1.14

c. Higher

The historical rent indicates an unusual contract rent, so other factors have affected the validity of the contract rent.

1.15

Previous

1.16

Contract rent

1.17

Historical rent

1.18

Lower

1.19

Increase

Low supply and high demand causes rents to rise.

1.20

Decrease

Supply and demand again.

1.21

Market rent (Also called economic rent.)

1.22

200 (10′ x 20′ = 200 square feet)

Also remember to consider the number of floors used.

1.23

$48,000 ($4,000 x 12 = $48,000)

1.24

$5.60/sq.ft./year

The contract rent divided by the number of square feet.

1.25

	Use	Size-Square Feet	Number of Floors	Contract Rent	Rent/SF/Year
Subject	Clothing Store	7,500	1	$48,750	$6.50
Property A	Grocery Store	7,200	1	$52,200	$7.25
Property B	Grocery/Dry Goods	12,800	2	$73,600	$5.75
Property C	Drug Store	7,000	1	$52,500	$7.50
Property D	Drug Store/Grocery	18,000	1	$99,000	$5.50

If the size of Property B tripped you, it is probably because you forgot the two floors. It is 80′ x 80′ for each of two floors.

1.26

Properties A and C

They are both roughly the same size as the subject, both on one floor, and the rents are close. In the case of A and C, though, both prices are higher. Properties B and D probably do not apply because of the large difference in size and rent and, in addition, B is on two floors. The type of business operation was not significant here because all were retail outlets of similar nature.

1.27

Would not

There is no meaningful way to compare the properties.

1.28

Higher

1.29

$ .25 ($7.50 -$7.25 = $ .25 per square foot)

1.30

Your answer should be in the range of $6.50 to $7.50 per square foot. Specifically, we arrived at $6.95 per square foot.

We arrived at $6.95 per square foot by assuming each square foot is equivalent to $.001. We determined from observation that the larger the square foot of the building, the less per square foot the market rent is. The size difference between comparable A and C is 200 square feet. The rent difference is $0.25. Dividing $0.25 by 200 square feet equals $0.001 per square foot rounded. Next, we find the size difference between comparable A and the subject which is 300 square feet. Multiplying $0.001 per square foot by 300 square feet equals $0.30. Because we have determined that the larger the size of the building, the lower the rent, we then subtract $0.30 from the $7.25 rent per square foot for comparable A, resulting in a market rent indication of $6.95 per square foot for the subject. The annual market rent for the subject would then be 7,500 square feet x $6.95 = $52,125. The monthly rent would be $52,125 ÷ 12 = $4,344 (rounded).

1.31

Future potential business, historical rents, present economic factors--and, perhaps, previous tax appraisals on the property.

Answers to Exercise 1

1. Your answer should include at least the following:

Data	Sources
• Contract rent	• Lessor, lessee, agent
• Historical rent	• Lessor, agent (previous tax appraisal records)
• Current and historical use of the property	• Lessor, lessee, or agent of similar properties, tax appraisal records
• Comparative property rent	• Lessor, lessee, or agent of similar properties, tax appraisal records properties (previous tax appraisal records.

2. a. Contract rent is $65 per room/mo., or
$1,560 per room/yr., or
a total of $18,720 per yr. for all rooms
b. Market rent is $75 per room/mo., or
$1,800 per room/yr., or
a total of $21,600 per yr. for all apts.

Your final answer should be $21,600 ± $100

3. Historical rent

4. Contract rent

5. Market or economic rent

6. Approximately $525 per month

Explanation:

Subject	$525/month	$6,300/year
Comp 1	$510/month	$6,120/year
Comp 2	$530/month	$6,360/year
Comp 3	$600/month	$7,200/year
Comp 4	$520/month	$6,240/year
Comp 5	$490/month	$5,880/year

By bracketing, we eliminate comparable properties 3 and 5 from consideration, leaving a range of monthly rents from $510 to $530. The contract rent is within the market rent range; therefore, it is considered to be equivalent to market rent.

1.32

Market

1.33

Electricity charged to user: ..... Yes
Owner is collecting (income) to cover his costs.

Laundry room receipts: ..... Yes
Income to the owner for a service provided.

Repairs to fixtures: .....No
Can only be an expense.

Parking fees:..... Yes
Suggest income for another service provided, however, it is rent on parking space.

Rent: ..... Yes
Obviously that is income.

1.34

Supplies: ..... Yes
Vending machine receipts:.....No
Janitorial services: ..... Yes
Maintenance and repairs:..... Yes
Utilities:..... Yes

1.35

Market

If you said contract, your logic is all right, but for appraisal purposes, the contract rent may not give us reasonable information for valuation of the property. The contract rent could be very low or very high due to a variety of circumstances.

1.36

Market rent . . . income from services

1.37

No **(**Because there is income from a service.)

1.38

Yes (Because there are no other income items.)

1.39

Contract (Rent and lease receipts reflect actual collected rent based on a rental contract.)

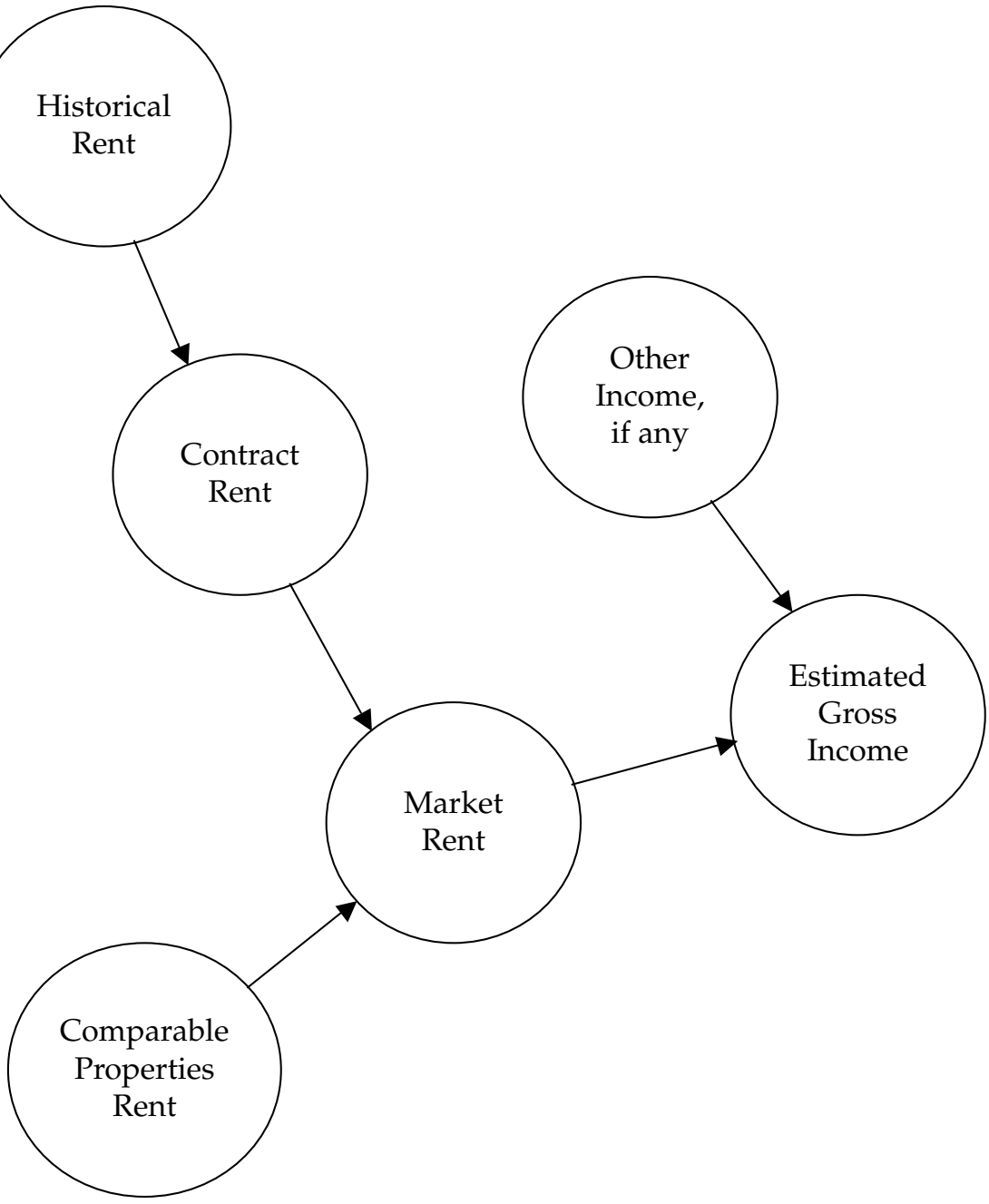
1.40

No

Because the definition is: Potential gross income = market rent at 100 percent occupancy plus earned income from services, and we do not know whether we have 100 percent occupancy or if the rent is equal to market rent. If we knew the economic rent figure, we would use that figure and not the figure on the statement.

1.41

This is what yours should look like.



Answers to Exercise 2

1. Your answer should (1) list the following income items in any order:

Apartment rentals income	$65,550
Electricity charges to tenants	2,660
Washer and dryer receipts	1,640
and (2) Total	$69,850

   All other listed items are expenses.

2. Income/Expense Statement
3. Market rent plus all other income (your words)
4. Contract rent

1.42

Market value

Or you might use another method, but let us use this one for now.

1.43

Gross income of the property

1.44

6

$20,000 x GIM = $120,000; or GIM = $120,000 ÷ $20,000.

So: GIM = 6

1.45

$270,000 **(**$30,000 x 9 = X; X = $270,000)

1.46

Gross income

1.47

Yes

1.48

Gross income x gross income multiplier = sales price

1.49

Gross income

1.50

Property A: 5

Your work looked something like this:

$$\frac{\$450,000}{\$90,000} = 5$$

or whichever equation you chose to use

Property B: 8.3

Your work looked something like this:

$$\frac{\$311,100}{\$37,500} = 8.3$$

or whichever equation you chose to use

1.51

7

Divide the selling price by the annual gross income.

Now that you have found the gross income multiplier for the comparable property to be 7, you can use it to estimate roughly the value of the subject property.

1.52

Value of property

1.53

$245,490

1.54

$185,535

The value would be $32,550 (gross income) multiplied by 5.7 (gross income multiplier) = $185,535.

1.55

A. 7.5 B. 6.6 C. 16.25 D. 7.25

1.56

GIM: *6.9* *Value: $241,500*

If your answer is within the limits of 6.8 to 6.9 GIM, that is fine. The thinking we used:

- The GIM for C (16.25) was excluded since it is out of line with the other GIM's.
- Our plus and minus values led us to feel that the range should be between B and D.

1.57

11 ±

E and C are out-of-line. The range then is between 10 and 12.

1.58

5, 6, and 7

The property from Sale 1 contains four one-bedroom apartments. The subject property contains three-bedroom apartments. So this property is not comparable to the subject property.

The properties from Sales 2 and 3 are not similar to the subject property because of their construction and location.

The property from Sale 4 is comparable except for age and because the rent for the property does not include utilities. The rent for the subject property does include utilities. The services which are supplied in order to produce the rents should be similar.

The properties from Sales 5, 6, and 7 all compare with the subject property.

1.59

GIM 6.40, value $137,376 or $137,380

Your answer may vary as follows: GIM 6.38, value $136,946, up to GIM 6.47, value $138,878.

Answers to Exercise 3

1. Property A gross income multiplier is 6.5.
   Property B gross income multiplier is 7.2.
   Property C gross income multiplier is 6.2.
2. $248,518 or $250,332 (If you used 6.85 or 6.9)

Lesson 2: Effective Gross Income

2.1

As we have discussed in Lesson 1, potential gross income is a combination of _____ plus all other income.

2.2

Potential gross income is based on the fair market rent of a property at _____ percent occupancy, plus other income.

But it is reasonable to assume that many properties will not be fully rented all the time. During normal economic times, and especially during times of economic recession, many properties have vacancies.

2.3

Vacancies, as well as nonpayment of rents, can have a significant effect on income derived from a property. For example, the gross income of a certain apartment property, deriving all its income from rent, is $200,000. Historically, the subject property has had 10 percent vacancies. The rate of vacancies this year is no different from last year. You would assume the real or effective gross income of this property to be _____.

Effective gross income is the potential gross rent portion of gross income reduced by normal vacancies and uncollectible rents, plus other service income.

2.4

If a commercial property has a yearly vacancy rate of 5 percent, its potential gross rent would be _____ (higher / lower) than its effective gross rent.

2.5

Now look at another situation. Dale Jones owns a 2-story office building. Rent is low because of the age and location of the building. New businesses rent these offices because they are seeking low rent overhead. Vacancies are rare in the office building. But, Dale has difficulty collecting rent from the business ventures that fail. To determine the effective gross income for this property, you would _____ (increase / reduce) the potential gross rent by a factor for uncollected rent.

2.6

Credit losses (uncollected rents) and vacancies are the two factors used to adjust the potential gross rent portion of the gross income of a property and the result is _____ gross rent of the property.

2.7

To calculate the effective gross income for a property, you first estimate the potential market rent (as discussed in Lesson 1). Next you reduce that figure by the percentage of vacancies or credit losses or both, based on the property's historical data. If the market rent for a property is $36,000 per year and the property historically has a combined loss due to vacancies and uncollectible rent of 2.5 percent, what is its effective gross rent? _____

The last step when there is non-rent-associated service income (income other than rent), is to add it to the effective gross rent to estimate the effective gross income.

To calculate the percentage of vacancy/credit loss, you subtract the income from collected rent from the potential gross rent. Then you calculate what percentage of the potential gross rent the difference is.

2.8

Suppose you have an income property to appraise and you estimated the potential market rent at $40,000 per year. A yearly income/expense statement for the property indicates all of the income is from rent. You also determined that the contract rent and market rent to be approximately equal. The collected income from the statement is $36,000. The percentage of vacancies/credit loss is _____.

2.9

Using the following income/expense statement, calculate the effective gross income of the property. The following conditions apply:

1. The statement is for the year just ended.
2. The market rents and the contract rents for the apartment units are about equal.
3. The apartment building has 10 identical apartment units and each rents for $6,000 per year.
4. Vacancy and uncollectible rent are the same as the preceding consecutive three years.

Income/Expense Statement

Rent collected	$ 55,500	
Parking	$ 8,000	
		$ 63,500
Manager's salary	$1,200	
Janitor's salary	600	
Supplies	350	
Utilities	2,400	
Taxes	6,750	
Mortgage payments	9,500	
		$ 19,600

What is the potential rent for the apartment building? _____

2.10

Now, what is the gross income for the property above? _____

2.11

What is the vacancy/credit loss percentage? _____

2.12

What is effective gross income for this property? _____

2.13

Income from rent is affected by vacancies and by uncollectible rents. Service incomes are usually not affected because they are "pay-as-you-go" items. You will have to make judgments concerning these types of items. For instance: if there is a 5 percent loss due to uncollectible rents and electrical and gas service are charged to the tenants, you would expect to have an equal loss for those services. Would you expect to have an equal loss from coin-operated laundry facilities? _____ (yes / no)

2.14

A ten-unit apartment property has 5 percent vacancy and 5 percent credit losses historically. Its projected income for the next year is as follows:

Rent (at 100% occupancy)	$78,000
Laundry receipts	1,750
Parking fees	9,000

What is the effective gross income? (Assume rent is market rent.) _____.

Check your progress by completing the following exercise.

EXERCISE

1. Below is a projected income/expense statement.

- The subject is a four-unit apartment property.
- The apartment units are vacant for four weeks out of 52 weeks each year.
- There has been a loss of rent (credit loss) of 5 percent for each of the past two years.

Projected Income/Expense Statement

Income:	
Income from rent (@ 100% occupancy)	$32,400
Tenant electricity charges	2,792
Income from laundry facilities	1,150
Expenses:	
Salaries	2,400
Repairs and maintenance	2,040
Utilities	3,200
Supplies	400
Miscellaneous	600

Calculate the effective gross income for the subject. _____

2. Potential gross income is market rent at 100 percent occupancy plus all other income from services. How does effective gross income differ from potential gross income?

_____
_____
_____
_____
_____
_____

Lesson 2: Answers

2.1

Market rent

2.2

100

2.3

$180,000

10% lower than gross income—because of vacancies.

2.4

Higher

Effective gross potential gross is market rent less normal vacancies and uncollectible rents plus other service income

2.5

Reduce

The effect on Dale Jones' income is the same as if he had vacancies.

2.6

Effective

2.7

$35,100

Potential gross rent less vacancies and credit losses

$36,000 x 2.5% = $900, and
$36,000 - $900 = $35,100

2.8

10%

$40,000 - $ 36,000 = $4,000 vacancy or loss

$ 4,000 ÷ $40,000 = .10 or 10% vacancy or loss

If we divide the amount of loss by the potential income we can determine the percentage difference.

2.9

$60,000 ($6,000 x 10 units)

2.10

$68,000 (Market rent plus service income)

2.11

7.5% ($4,500 ÷ $60,000 = .075 or 7.5%)

2.12

$63,500

Remember to add the service income (parking) to the effective gross income. Your calculations were something like this:

7.5% x $60,000 or .075 x $60,000 = $4,500

And Subtracting the Vacancy/Credit Loss From the Potential Rent:

	$60,000
	4,500
	$55,500
Plus Service Income:	+ 8,000
	$63,500

2.13

No

They are pay-as-you-go, or separate from the normal rent charges.

2.14

$80,950

$78,000 minus 10% (or $7,800) plus laundry and parking

Answers to Exercise

1. Vacancy factor	7.7%	(4 weeks ÷ 52 weeks = .077 or 7.7%)
Plus credit losses	5.0%	
	12.7%	
Income from rent		$32,400

% rent loss x rent income = amount of loss

(12.7%).127 x ($32,400 + 2,792) = $4,469

THEN:

$35,192	Direct rent income & Tenant electricity charge
– 4,469	Loss
$30,723	
+ 1,150	Plus service income
$31,873	EFFECTIVE GROSS INCOME

2. *Effective gross income* is potential gross rent minus vacancies and uncollectible rents (credit losses) plus service income.

Lesson 3: Expenses

You have learned how to estimate the effective gross income for a property. In this lesson, we will deal with calculating the net income.

Net income is the effective gross income less the costs required to maintain the income flow. Expenses are handled in a variety of ways for accounting purposes; but for the purpose of estimating the value of income properties, you will be determining those expenses which are necessary to maintain the income flow of the subject property.

It is important to consider lease terms when estimating expenses. Leases are usually referred to as Net or Gross, although many are not completely one or another. With a Net Lease (also referred to as Triple Net), the tenant pays all taxes and operating expenses. The owner is not involved with property operations. In a Gross Lease, the landlord pays all operating expenses.

In the following lesson, you will be introduced to a Gross Lease situation. That is, the problems will all be presented using a Gross Lease expense structure.

3.1

If a property has an effective gross income of $36,000, and the expenses necessary to maintain that income flow are $22,000, what is the net income of the property? _____

Financial statements are prepared by accountants to help property owners manage their property and for income tax purposes. Information contained on these statements can be helpful to appraisers, but must be analyzed and usually adjusted before it can be used for appraisal purposes.

Sometimes you will have access to income/expense statements from properties, which put expenses into four different categories. The categories are listed below:

- *Fixed expenses*—these are the expenses incurred by a property which are continuous (each year). Usually these expenses do not vary widely from year to year. License and permit fees and insurance premiums are usually in this category. Fixed expenses are operating expenses that usually do not vary with occupancy and have to be paid whether the property is occupied or vacant.
- *Variable expenses and repairs*—these are the expenses incurred for administration, utilities, payroll, maintenance, supplies, and services required for operating the property. Variable expenses are relative to the occupancy rate: as occupancy increases so does the variable expense increase.
- *Reserve for replacements*—this category includes amounts reserved for future replacement of boilers, roofs, stoves, and other short lived items. (They are usually not necessary costs of maintaining the income flow except in special cases which we will mention later.)
- *Other expenses*—this catchall category may be small by comparison to the other categories. However, if it is sizable, the items included should be analyzed carefully to determine whether to reallocate them to other categories and to determine whether the items are necessary to maintain the income flow. Non-functioning director's salaries and other items that do not maintain the income flow may appear in this category.

Real estate (property) taxes are a legitimate expense. For ad valorem tax purposes, however, property taxes should not be included as an operating expense. The property tax impact is accounted for by adding an effective tax rate component to the capitalization rate.

3.2

Mortgage interest, while an appropriate expense for income tax and accounting purposes, it is not an allowable expense for appraisal. Because most properties are purchased with debt and equity capital, the overall capitalization rate must satisfy the market return requirements of both investment purposes. Therefore, rather than allowing mortgage interest as an expense item, it is con-

sidered within the components which make up the capitalization rate.

Insurance is a fixed expense to the property and is necessary to maintain the income stream. Under what category would you expect to find electricity, gas, and cleaning supplies?_____
(Fixed / Variable / Other / Reserves)

Are they necessary to maintain the income stream of the property? _____. (yes / no)

3.3

Insurance must be carried by commercial properties. In most cases, insurance premiums are paid on a three-year basis. Insurance premiums on an income property would be expected from year to year to _____
(remain constant / fluctuate).

3.4

On the basis of the information in the two questions above, what category of expenses do you think insurance premiums would appear under?

_____

3.5

Here is a list of expenses. Put an F in front of the Fixed expenses and an V in front of the Variable expenses. Please leave all other expenses, if there are any, blank.

____ janitor's salary

____ insurance (3-year policy)

____ repairs

____ water and sewer

____ building depreciation

____ principal and interest on mortgage

____ property taxes

____ gas

____ electricity

____ supplies

3.6

When calculating net income, we are concerned with all expenses that are necessary to maintain the income flow of the property. Take a closer look at the Reserves for replacement and Other expenses categories. They will require some judgments on your part on whether to include them or not and at what level.

Building maintenance and repairs are properly included as Variable expenses. But now, consider this case. The owner of a property has just installed a new roof costing $15,000. The original roof lasted for 20 years. He has allocated $750 per year for the past 20 years in anticipation of this replacement cost which is necessary to the income flow of the property. Should you include the $750 replacement expense on his statement as an expense in computing net income? _____
___ (yes / no)

3.7

If the owner of an apartment building redecorates each unit before a new tenant moves in, the expense would be classified as a(n) _____ expense.

3.8

Now look at the Other expenses category. Items that may appear here are legal and accounting fees, income taxes, corporation franchise taxes, and director's salaries.

Legal and accounting fees at an amount that seems reasonable for the operation of the property are logical administrative expenses of the property. Salaries of directors who also manage the property in some way are necessary expenses contributing to the income flow, if in line with salaries at similar income properties.

Are income taxes or corporation franchise fees necessary to the income flow of a property?

_____

3.9

Now, let's work on calculating the Fixed and Variable expenses from the following income/expense statement excerpt. The next few problems are based on this information.

Actual rents received (past year)	$92,000
Expenses (past year)	
Interest on mortgage	6,284

Property Taxes	7,500
Janitor's salary	3,200
Insurance (3-year policy)	2,700
Water	2,250
Electricity	2,700
New roof (15-year guarantee)	2,800
Supplies and sundries	750
Owner's salary	3,600
	$31,784

From the excerpt above, what is the total of the variable expenses? _____

3.10

As we said in Problem 3.4, insurance premiums are usually paid on a 3-year basis. Therefore, you would have to divide the 3-year premium by _____ to get the yearly or annual insurance cost.

3.11

In the statement excerpt above, what is the total of the fixed expenses? _____

3.12

In an apartment building with regular turnover, if rooms were redecorated after each tenant moved out, would you consider redecoration a variable expense or a replacement expense? _____

3.13

Now put the information you have been working with in Lessons 2 and 3 to use.

Effective gross income is potential gross rent less _____ and _____.

3.14

Effective gross income minus all expenses necessary to maintain income flow equals _____ income.

3.15

Suppose your subject property has a potential gross rent of $70,000, and a 5 percent vacancy factor is noted. There is no other source of income. What is the effective gross income? _____

3.16

The fixed expenses for the above subject are $12,200, and the variable expenses are $31,600. There are no other expenses required to maintain income flow. What is the net income? _____

3.17

Now, solve this problem to practice your skills. You will need to find effective gross income, fixed expenses, variable expenses, and net income. Here is the information for the subject.

You are appraising a 23-year-old apartment building. The statement for the past year shows actual expenditures and receipts. The building contains 15 units that rent for $350 per month, 15 for $425 per month, and 10 for $500 per month. These rents conform to market rents for comparable properties. Vacancy rate is 10 percent.

Income/Expense Statement

Rents received (past year)	$179,550
Expenses (past year)	
Interest on mortgage	15,778
Insurance (3-year policy)	13,500
Property Taxes	30,000
Janitor's salary	17,000
Water	9,000
Electricity	6,000
New roof (20-year guarantee)	18,000
Redecorating	3,500
New equipment furnished	
Repairs	14,000
Supplies	3,000
Landscape maintenance	8,600
Owner's salary	35,000
Corporation franchise tax	660

A. What is the potential gross income?

_____

B. What is the effective gross income?

_____

C. What is the total of fixed and variable expenses? _____

D. What is the total of replacement expenses? _____

E. What is the net income? _____

EXERCISE

Check your progress by completing the following exercises.

1. Place an X in front of the types of expenses below that would be classified as variable expenses.

____ cleaning

____ management expense

____ electricity

____ mortgage interest

____ water

____ property taxes

____ gas

____ repairs

____ supplies

____ insurance

2. Below is a list of expenses for a rental property. Please compute the variable expenses for the property.

Expenses

Salary (janitor)	$ 2,400
Repairs	4,900
Property Taxes	4,500
Heating	2,100
Electricity	1,200
Insurance (3-year policy)	1,750
Water	2,800
Principal and interest on mortgage	9,500
Building depreciation	20,000
Supplies	600

3. Below is an income/expense statement furnished to you by the owner for a property you are to appraise. Allowing a 4 percent vacancy and loss of rent factor, compute the net income for the property.

Income/Expense Statement

Gross Income	$85,200
Salary (janitor)	3,200
Utilities	4,260
Repairs and maintenance	5,110
Insurance (one year)	2,130
Redecorating	1,700
Legal and accounting fees	650
Supplies	720
Miscellaneous	2,550
License and permit fees	7,500
Owner's salary	5,960

Lesson 3: Answers

3.1

$14,000

Effective gross income less expenses necessary to maintain the income flow, equals net income.

3.2

Variable expenses...yes

Utilities and supplies are found under variable expenses, and they are expenses necessary to the income flow of the property.

3.3

Remain constant

The premiums on insurance coverage vary little from year to year.

3.4

Fixed expenses

The premiums remain relatively constant and are a continuing requirement.

3.5

V	janitor's salary
F	insurance (3-year policy)
V	repairs
V	water and sewer
___	building depreciation
___	principal and interest on mortgage
___	property taxes
V	gas
V	electricity
V	supplies

License and permit fees and insurance are fixed expenses. Salaries, repairs, supplies, and utilities are all variable expenses, and are necessary expenses to maintain the income flow of the property. The expense associated with building depreciation is addressed as a "recapture rate" which is a concept that will be introduced in Lesson 4 on capitalization rates. Mortgage interest and principal are Other expenses, and they are not necessary to maintain the income flow of the property.

3.6

Yes

Reserves for replacement of stoves, refrigerators, boilers, etc., if substantiated and reasonable in terms of cost and duration, are certainly to be included.

Note: Building depreciation is not normally considered as an operating expense, rather we treat it as one of the components (recapture) of the capitalization rate. You will learn how to do this in Lesson 4.

3.7

Variable expense

Since redecoration is normal, and does not replace anything, it is a regular variable expense.

3.8

No

While they may be listed or carried on an income/expense statement, you need to exclude this type of item as you would exclude excessive salaries to a relative for management of the property, or to a non-active director.

3.9

$12,500

You included janitor's salary, water, electricity, supplies and sundries, and the owner's salary. As you recognized, the owner's salary is a reasonable administrative expense. If it had exceeded 5 percent to 7 percent of income, you would consider reducing it to within the normal range for management.

3.10

3

3.11

$900

1/3 of the 3 year insurance policy. Remember that property taxes are considered in the capitalization rate.

3.12

Variable expense

It does not replace anything. It is a normal, ongoing expense of doing business.

3.13

Vacancies . . . uncollectible rents/credit losses

3.14

Net

3.15

$66,500

3.16

$22,700

3.17

	Income		
15 units at $350 per month			
15 x 350 x 12	$63,000		
15 units at $425 per month			
15 x 425 x 12	$76,500		
10 units at $500 per month			
10 x 500 x 12	$60,000		
A. Potential Gross Income		**$199,500**	
10% vacancy fact		-19,950	
B. Effective Gross Income		**$179,550**	**$179,550**
	Expenses		
Fixed			
Insurance 1/3 x $13,500	$ 4,500		
Variable		$ 4,500	
Janitor's salary	$ 17,000		
Water	9,000		
Electricity	6,000		
Redecorating	3,500		
Repairs	14,000		
Supplies	3,000		
Landscape Maintenance	8,600		
Owner's salary (management)	35,000		
		$ 96,100	
C. Total Fixed and Variable Expenses		**$ 100,600**	
D. Replacement Expenses			
Roof (20-yr. guarantee @ $18,000)	$ 900		
Total Replacement Expenses		$ 900	
Total Expenses			$ 101,500
E. Net Income			**$ 78,050**

Answers to Exercise

1. You should have checked all items except mortgage interest, property taxes, and insurance.

2. $14,000. You should have computed the variable expenses as follows:

Expenses	
Salary (janitor)	$ 2,400
Repairs	4,900
Heating	2,100
Electricity	1,200
Water	2,800
Supplies	600
Total variable Expense	$14,000

3. Net income - $55,512. You should have computed the net income along these general lines:

Income		
Gross Income	$85,200	
Allowance for vacancy and rent loss (4%)	3,408	
Effective gross income	$81,792	$81,792
Expenses (Fixed)		
Insurance	$ 2,130	
	$ 2,130	$ 2,130
Expenses (Variable)		
Salary (Janitor)	$ 3,200	
Utilities	4,260	
Repairs and Maintenance	5,110	
Redecorating	1,700	
Legal and accounting fees	650	
Supplies	720	
Miscellaneous	2,550	
Owner's salary	5,960	
	$24,150	$24,150
Total Fixed and Variable		$26,280
Net Income		**$55,512**

Lesson 4: Capitalization Rates

We will begin this lesson by discussing, in a generalized way, what a capitalization rate is. Later in the lesson you will learn how to accurately determine the capitalization rate in order to find the value of an income producing property.

4.1

The capitalization rate (or cap rate) is the ratio (or relationship) of net income to the value of the property (expressed as a percentage). If the value of the property were $100,000 and the net income were $10,000 yearly, the capitalization rate would be _____.

4.2

Income property is bought for investment purposes; that is, the investor buys the property because they expect to receive income from their investment. So the question is, "How much income will my investment produce?" They are interested in the net income relative to the cost (or value). And the relationship of net income to value is called the _____.

4.3

Sandy Jones purchased an income property for $300,000 from which Sandy expects an annual 15 percent income return. Sandy must have determined that the annual net income was $ _____.

4.4

You have been working with the following concept: capitalization rate equals net income divided by value.

Using R for capitalization rate, I for net income, and V for value, write a formula that expresses the relationship of these three factors.

_____ = _____.

4.5

Perhaps an easy way to keep this relationship in mind is to use this diagram:

It suggests the following interrelationships:

I = R x V

R = I / V

V = I / R

You can solve the equation for any of its factors if the other two factors are known. Capitalization rate is the ratio between _____ and _____.

4.6

If the net income is $40,000 and the value is $600,000, what is the cap rate? _____%.

4.7

You know Kelly Peck's property generates a net income of $12,000 and that a fair rate of return (cap rate) on the type of income property Kelly owns is 12 percent. What would you compute the value as? $ _____

4.8

Now that your have learned the basic concept of income capitalization, we will examine the details.

When we were discussing the general concept of a capitalization rate, you were given two of the three factors. When you are appraising a property, you will have to calculate accurately two of the three factors.

In the last lesson you reduced effective gross income by operating expenses and by fixed expenses to find _____.

4.9

Now we will work on the methods of determining the capitalization rate, the second factor we need, so that we can estimate property value.

You have an appraisal to make on an income property. You have determined its annual net income to be $28,000. By screening the market data, you find a comparable property with a net income of $20,000 which recently sold for $240,000. What is the cap rate of the comparable property? (Use the general cap rate formula.) _____

4.10

If you have determined that the comparable property is an accurate measure of your subject, you can simply use the comparable cap rate to estimate the value of the subject property. Net income for the subject is $28,000 and the comparable cap rate is 8.33 percent. What is the value of the subject? _____

4.11

In the problem you just completed, you used market data from which you extracted a suitable capitalization rate. The cap rate used to solve the problem was the rate determined for a _____ property.

4.12

We have examined a formula used to determine a general capitalization rate, and a method to estimating the value of a subject by using market data from comparable properties. Now you will learn what components capitalization rates consist of and how to compute them.

If you put $1,000 in the savings bank, and it pays 5 percent interest, you will receive $50 at the end of the year. You have received a return _____ (of / on) your investment.

4.13

When you borrow money to buy a new car, your time payments are partly interest and partly repayment of the loaned amount. The lender is receiving a _____ on their investment as well as a return _____ their investment.

4.14

An individual or corporation investing in real property expects to receive **a return on** the investment (interest) as well as **a return of** the investment (principal). The return on investment portion is considered _____ (principal / income).

4.15

Income property has two major components: land and buildings. Land has a timeless value, which remains even if the buildings are torn down or burn to the ground. Buildings, on the other hand, only last for a certain period of time, and therefore only produce income for a certain period of time. The period of time during which a building can produce profitable income is the economic life of the building. Depreciation and market changes eventually render buildings of no economic value. The period of time that a building can produce profitable income is called the _____ life of the building.

4.16

Except in special cases, such as farm land, the economic life of an income property is determined by the economic life of the _____ (s).

4.17

An income property can produce a return on the investment and a return of the investment during a specified period of time. When making investment decisions, the investor must know how long the buildings will be useful. Another way of saying this is that the investor must know the _____ of the building(s).

4.18

Here is a simple case. Terry Klein purchases an office building for $300,000. The building has an expected economic life of 20 years. Terry expects to receive 5 percent or $15,000 yearly income from the property during its economic life. He also expects to have the investment repaid over that period of time. The net income of the property must have been at least _____ ___.

4.19

In the above case, with a net income of $30,000 and the market value at $300,000, what is the cap rate? _____

4.20

The cap rate in our example is made up of recapture (return of investment) plus interest (return on investment). The recapture rate is _____% and the interest rate is _____%.

4.21

What then, are two of the factors involved in determining a capitalization rate?

_____ and _____.

4.22

Because of the non-wasting nature of land, it is often invested in on a straight interest basis. The interest is the rate of income.

Since buildings have an economic life, the appraiser, using the income approach to value, must establish the economic life of the building to determine the recapture rate that is applicable. The recapture of the value of land can be accounted for whenever the property is sold. The recapture of the value of a building must be accomplished during the _____ of the building.

4.23

If the value of an income-producing building were $500,000 and its economic life is estimated at 25 years, the amount of recapture would be $_____ per year.

A method for calculating the remaining economic life of a building follows. It requires information on sale price of the subject property (or comparable properties) and the prevailing interest rates for income property investments.

4.24

You are estimating the economic life of a subject. You know the property sold for $400,000. By checking with bankers and real estate management companies, you determine that the 8 percent interest (return on investment) is normal for this type of income property. Net income from the property is $48,000 annually, all from rent. Organize the information like this:

Annual net income		$48,000
Sale price of property	$400,000	
Prevailing interest rate	8%	
Total amount of interest		– 32,000
Yearly recapture of investment		$16,000

Using market data, you determine the value of the land (non-wasting portion of the property) to be $110,000. What is the value of the portion of this property subject to recapture consideration?

_____

4.25

Approximately how many years must the property earn income to recapture $290,000, if it can recapture $16,000 per year? _____

4.26

To determine the yearly rate of recapture, you would divide the percentage of total recapture (100 percent recapture) by 18 years. The recapture rate in this case is _____.

4.27

When would the land value be recaptured by the investor? _____

4.28

You are to estimate the economic life of a subject. The subject property sold for $385,000 with a net income of $53,700. Your research shows interest rates on this type of property to be at 9½ percent. The land value was determined to be $58,000. What is the economic life of the property?

_____

The interest rate (return on investment) plus the recapture rate (return of investment) plus property taxes (that is, the rate of taxation applicable to the real property), are all included in the overall capitalization rate.

THE SUM OF	Effective interest rate + Recapture rate + Effective tax rates rate	= Overall capitalization rate

We will now discuss each component of the overall capitalization rate separately.

Effective Interest Rates

For purposes of this discussion concerning the income approach to value, we will be using the "Band of Investment Method" to determine the total interest rate for a property. You need to be aware that there are other methods of capitalization. The "Band of Investment Method" is based on the fact that purchase funds are made up of financing plus equity.

4.29

If you purchase a car by means of a loan, the money you pay as a down payment is _____ (borrowed / equity) money.

4.30

The monthly payments you make pay off interest plus _____(borrowed / equity) money.

4.31

Sometimes, when property is purchased, there is more than one loan (in addition to the buyer's equity) needed to make up the total purchase price. These loans on property are called mortgages. That portion of the purchase price not covered by mortgages is called _____. (borrowed / equity)

4.32

If 50 percent of the purchase price is covered by a first mortgage and 30 percent of the price is covered by a second mortgage, what percent of the total purchase price must be equity? _____ (10% / 20% / 30%)

4.33

In the case above, if the first mortgage was made with an interest rate of 8 percent, and the mortgage is only half of the purchase price, what is the effective interest rate on the total purchase price? _____ (4% / 6% / 8%)

4.34

If you have a second mortgage covering 25 percent of the purchase price of a property, and the interest rate on the mortgage is 9 percent, what is the effective interest on the total price? _____ (2.25% / 4% / 9%)

4.35

Now, look at a typical case. A property is financed from the following sources:

- First mortgage covers 50% of the price and is at 7% interest.
- Second mortgage covers 20% of the price and is at 10% interest.
- The purchaser puts in the remaining 30% of the price and wants to get 9% return on investment.

First, figure the effective interest to total price. Below is the information to work with. Fill in the three blanks.

Money Source	% of Purchase Price	x	Rate of Interest		Effective Interest to Total Price
1st mortgage	50%	x	7%	=	
2nd mortgage	20%	x	10%	=	
Equity	30%	x	9%	=	

4.36

Now you have calculated the effective interest for each amount used to purchase the total property. What is the total effective interest? _____ (Use the information you computed in above.)

4.37

Try one for yourself.

The Parkers purchased a property using personal funds for the 35 percent down payment. They want 10 percent return on their investment (a reasonable rate for the type of property). The Parkers go to the bank for a mortgage to cover the remainder of the

purchase price. The bank loans them 55 percent of the total price at the current rate of 8 percent. They get a second mortgage for the remaining 10 percent of the price. The rate is 13 percent and market data indicates that this is a competitive rate for a secondary mortgage. What is the effective interest rate on the property? _____

Use the following to help you with your calculations:

Money Source	% of Purchase Price	x	Rate of Interest	=	Effective Interest to Total Price
		x		=	
		x		=	
		x		=	

Recapture Rate

4.38

We have already discussed this topic, but let's review it briefly. You are appraising an income property that was just purchased for $600,000, and you have market data suggesting that the value of the land is $200,000. The total interest rate on the property is 9.5 percent and the net income is $67,000. Compute the recapture rate. _____ (2% / 2.5% / 3%)

Effective Tax Rate

The effective tax rate is a rate expressing a relationship between its real market value and its current tax bill expressed as a ratio. As previously discussed in Lesson 3, the property taxes are not included as an expense item when appraising property for ad valorem purposes. Rather, they are included as a component of the capitalization rate. Note: the effective tax rate is NOT the actual (nominal) tax rate when the assessment level of property is less than 100 percent of market value.

In Oregon, since the passage of Measure 50, most properties are assessed at a level less than 100 percent of real market value. The average level of assessment by major property class by county is represented by the Changed Property Ratio (CPR) for the county within which the property is located.

To calculate an effective tax rate, divide the actual, or nominal, tax rate by 1,000, then multiply that figure by the CPR (assessment level) for the subject's property class.

Example: To calculate an effective tax rate if:

> Nominal Tax Rate: $15 per $1,000 of Assessed Value
>
> Assessment level (CPR) for commercial property is 80%
>
> $15 ÷ 1,000 = $.015 x Nominal Tax Rate expressed as a percentage
>
> $.015 x .80 Assessment Level Ratio = .012 Effective Tax Rate

4.39

The effective tax rate is the percentage of taxation that a property is assessed calculated on the Real Market Value rather than the Assessed Value. Suppose you had property assessed at $32 per thousand dollars worth of valuation and an assessment level of .80. What is the effective tax rate? _____ (8.256 / 0.32 / 0.0256)

4.40

When you compute effective interest rates, effective tax rates, and recapture rates, it is important to be very accurate. Mistakes in arithmetic and/or mistakes in gathering complete and accurate data can make you look foolish. Following is an example showing why.

Using the general formula $\frac{I}{R\ V}$ and a fixed net income of $30,000, if we use a 7 percent rate, the value is $_____

4.41

What if we use a rate of 8 percent by mistake?

_____

4.42

And the difference caused by the error? _____

_____

4.43

We have been discussing the three components that together make up the overall capitalization rate.

Please name the three components (any order).

_____.

_____.

_____.

Use what you have learned in these lessons with the information provided to answer the following questions:

You have been assigned to appraise a property using the income approach to value.

You have researched the problem and have come up with the following information:

1. 40% first mortgage at 7% interest.
2. 30% second mortgage at 9.5% interest.
3. The owner wants a 9% return on his investment.
4. You have determined that the remaining economic life of the building is 20 years.
5. Taxes are $30.80 per M ($1,000) and the assessment level for commercial property is 75%.

Now work out the answers to the following four problems. (Check your answers as you proceed.)

4.44

What is the effective interest rate? _____

4.45

What is the recapture rate? _____

4.46

What is the effective tax rate? _____

4.47

What is the capitalization rate for this building? _____

Note: The capitalization rate for land would not include the 5 percent recapture rate.

In Lesson 5, you will use the cap rate to determine the value of income property.

EXERCISE

Check your progress by completing the following exercises.

1. The recent sale price for a property was $380,000. You have computed the net income for the property to be $45,000. What is the overall capitalization rate? _____

2. You are appraising a property which has a net income of $39,950. The capitalization rate is determined to be 12.5 percent and the effective tax rate is 1.2 percent. What do you calculate the value of the property to be? _____

3. You are asked to appraise a warehouse building. The property recently sold for $500,000. The value of the land is estimated to be $120,000. Net income for the property is $58,500. The interest rate for this type of property is estimated to be 8.4 percent. What is the estimated remaining economic life of the building? _____

4. Your assignment is to appraise a subject property with a net income of $85,000 per year. The property recently sold for $850,000. The land is estimated to be worth $200,000. Interest rate on land and buildings is estimated to be 7.5 percent. What is the recapture rate for the building? _____

5. The market value of a property is estimated to be $350,000. The nominal tax rate is $28.00 per $1,000 of assessed value. The assessment level is 60 percent for commercial property. What is the effective tax rate for the property? _____

6. What is the total interest rate on a property which recently sold for $250,000, with a 75 percent mortgage at 8.5 percent? The buyer requires a 9.5 percent rate of return on his investment. _____

7. Property XYZ recently sold for $540,000. It carries a 50 percent first mortgage at 8.0 percent and a 20 percent second mortgage at 10.5 percent. The buyer requires an 8.5 percent rate of return on equity. The property is estimated to have a remaining economic life of 20 years. The local taxes are $25 per $1,000 and the assessment level is 70 percent.

   What is the capitalization rate to be used in appraising the building portion of the subject property? _____

Lesson 4: Answers

4.1

l0%

Simply the net income ($10,000) divided by the value ($100,000). The ratio of net income to value is 10%.

4.2

Capitalization rate

4.3

$45,000

You multiplied the capitalization rate by the total value and found the annual net income.

4.4

R = I /V (Cap rate = Net Income / Value)

4.5

Net income and value

4.6

6.7%
$40,000 ÷ $600,000 = 0.067 or 6.7%

4.7

$100,000 ($12,000 ÷ 12% = value)

4.8

Net income

Net income is one factor to determine the value of a property.

4.9

8.33% (R =I/V or $20,000 ÷ $240,000 = .0833 or 8.33%)

4.10

$336,000 (rounded)

Divide the cap rate (8.33%) into the net income ($28,000), because value = I/R from the formula.

$28,000 ÷ 0.0833 = $336,135 ($336,000 rounded)

4.11

Comparable

Typically, you would prefer to have several comparable properties to evaluate and from which determine an appropriate cap rate using the market data method.

4.12

On

The 5% interest is a return on the $1,000. If you had received some or all of the original $1,000 back, it would be a return of investment.

4.13

Return . . . of

The investor is receiving income from the money as well as getting their money back.

4.14

Income

Principal is the return of investment.

4.15

Economic

That is the time during which an investor can expect to receive rent from the property.

4.16

Building(s)

Usually people do not rent space in worn-out buildings and, therefore, the property does not produce income.

4.17

Economic life

4.18

$30,000 per year

$15,000 return on investment plus $15,000 ($300,000 ÷ 20) return of investment

4.19

10% (I/V= R or $30,000/$300,000 = 10 percent)

4.20

5% . . . 5%

The 5% interest rate plus the 5% recapture rate total 10%, which is the same as the 10% cap rate you just computed.

4.21

Interest rate . . . recapture rate

The return on investment and the return of investment.

4.22

Economic life

4.23

$20,000 (1/25th of $500,000)

But we need more than the assumption of a 25 year economic life to defend a case.

4.24

$290,000 ($400,000 - $110,000, or sale price minus value of land)

4.25

18 years

Dividing $16,000 into $290,000 equals 18.13 years which is rounded to 18 years.

4.26

5.5% (100% divided by 18 years equals 5.5% per year)

4.27

When the property is sold

It is a non-wasting commodity, so the value can be recaptured at any time without loss.

4.28

19.09 years

Annual net income		$53,700
Sale price of property	$385,000	
Prevailing interest rate	9 ½%	
Total amount of interest		– 36,575
Yearly recapture of investment		$17,125

Property value ($385,000) less land value ($58,000) = $327,000. Value subject to recapture ($327,000) divided by yearly recapture of investment ($17,125) equals 19.09 years.

4.29

Equity

4.30

Borrowed

4.31

Equity

4.32

20% (The total is always 100%.)

4.33

4%

50% of the total price is covered by the first mortgage. That is half of the price. If the mortgage covered the total price of the property, the interest on the property would have been 8%. Since the mortgage covers only half, we know that the effective interest rate to the total price is half of 8% or 4%.

4.34

2.25%

1/4 of 9% (25% x 9% or .25 x .09 = .0225)

4.35

1st mortgage 3.5%, 2nd mortgage 2.0%, Equity 2.7%

4.36

8.2% (3.5% + 2.0% + 2.7% = 8.2%)

4.37

9.2%

	% of Price		Rate %	Effective Interest
Equity	35%	10%	(.35 x .10 =.035)	3.5%
1st mortgage	55%	8%	.55 x .08 =.044)	4.4%
2nd mortgage	10%	13%	(.10 x .13 =.013)	1.3%
			Effective Total Interest	9.2%

4.38

2.5%

Annual net income		$67,000
Sale price	$600,000	
Interest rate	9 ½%	
Yearly recapture of investment		– 57,000
Yearly recapture of investment		$10,000

Value of wasting property— $400,000

Remaining years of economic life—40 ($400,000 ÷ $10,000)

RECAPTURE RATE—100% ÷ 40 = 2.5%

4.39

0.0256 or 2.6%

$32 ÷ $1,000 = .032 x .80 = 0.0256

Note: To find the percent, divide the total into the part. The answer is a decimal. Move the decimal point two places to the right and that number is a percentage notation.

4.40

$428,571
$30,000 ÷ 0.07 = $428,571

4.41

$375,000
$30,000 ÷ 0.08 = $375,000

4.42

$53,571

As the property values and income amounts get large, the variations caused by small, seemingly insignificant variations in rates can be very significant.

You can see where this can be a significant problem.

4.43

Effective interest rate

Recapture rate

Effective tax rate

4.44

8.35%

1st mortgage	40%	at	7%	2.8%
2nd mortgage	30%	at	9.5%	2.85%
Equity	30%	at	9%	2.7%
			Effective Total Interest	8.35%

4.45

5% 100% (total recapture rate)

20 (number of years to total recapture)

Recapture Rate = 5%

4.46

2.31% $30.80 ÷ $1,000 = .0308 x .75 = .0231 x 100 = 2.31%

Effective Tax Rate = 2.31%

4.47

15.66%

Effective interest rate	8.35%
Recapture rate	5%
Effective tax rate	2.31%
Capitalization Rate	15.66%

ANSWERS TO EXERCISE

1. 11.8%

   Capitalization rate = Income (net) ÷ Value = $45,000 ÷ $380,000 = 11.8%

2. $291,606

   Income (net) ÷ capitalization rate + effective tax rate = Value

   $39,950 ÷ 0.125 + 0.012 = 0.137 = $291,606

3. 23 years

Net income		$58,500
Selling price	$500,000	
Interest rate (.084)		
Interest in dollars		42,000
Recapture in dollars		16,500

   Recapture period demonstrated = $16,500 ÷ $380,000 = 0.0434

   1 ÷ 0.0434 = 23.03 or 23 years

4. 3.27% Recapture rate

Net income		$85,000
Selling price	$850,000	
Interest rate (.075)		
Interest in dollars		$63,750
Recapture in dollars		$21,250

   Recapture period = $21,250 ÷ $650,000 = 0.03269 x 100 = 3.27%
   Recapture rate = 3.27% per year or
   Remaining economic life = 1 ÷ 0.03269 = 30.6 years

5. 1.68% Effective tax rate

   $28 ÷ 1,000 = $0.028 per dollars of assessed value

   $0.028 nominal rate x .60 assessment level = 0.0168 effective tax rate or

   $16.80 per thousand dollars of market value

6. 8.75%

Mortgage	75% x 8.5% =	6.375
Equity	25% x 9.5% =	2.375%
Total Interest Rate		8.75%

Money Source	% of Purchase Price	x	Rate of Interest		Effective Interest to Total Price
Mortgage	75%	x	8.5%	=	6.375%
Equity	25%	x	9.5%	=	2.375%
			Total Interest Rate	=	8.75%

7. 15.45%

First mortgage	50% at 8.0%	=	4.0%
Second mortgage	20% at 10.5%	=	2.1%
Equity	30% at 8.5%	=	2.6%
Total interest rate		=	8.7%
Recapture rate	1 ÷ 20	=	5.0%
Effective tax rate	$25 ÷ 1,000 x .70	=	1.75%
Building capitalization rate		=	15.45%

Lesson 5: Techniques for Capitalization of Income

5.1

In the last lesson, you learned how to develop a capitalization rate when estimating the value of a property using the income approach to value.

As you recall from the last lesson, you did not include the value of the land when you computed recapture rate. That was because land is a _____ (wasting / non-wasting) asset.

5.2

When establishing the value of income property, it is usually necessary to value land separately from buildings. Using the capitalization rate, if you have estimated the amount of income that directly applies to the building, then logically the remainder, or residual income must apply to the _____ (land / building / property).

5.3

Conversely, if you have used the capitalization rate and computed the income attributable to the land, then the _____ (residual / total) income is attributable to the building.

There are a number of different income capitalization methods. The one we are concerned with here is the residual capitalization technique that separates the property into two components: a known and unknown value. Net income attributed to the known value component is subtracted from the overall net income to arrive at an income and value for the unknown. There are three primary residual techniques used in ad valorem valuation: land, building and property.

5.4

If you use the Building Residual technique to value a property, the residual income must apply to the _____ (land / building / property).

5.5

If you use the Land Residual technique, the residual applies to the _____ (land / building / property) portion of the property.

5.6

Now, assume that we are unable to determine separate information for land and building. But we have income information and capitalization rate information for the total property. To conform to other technique names, this is called the Property Residual technique.

The three techniques for estimating the value of income property are:

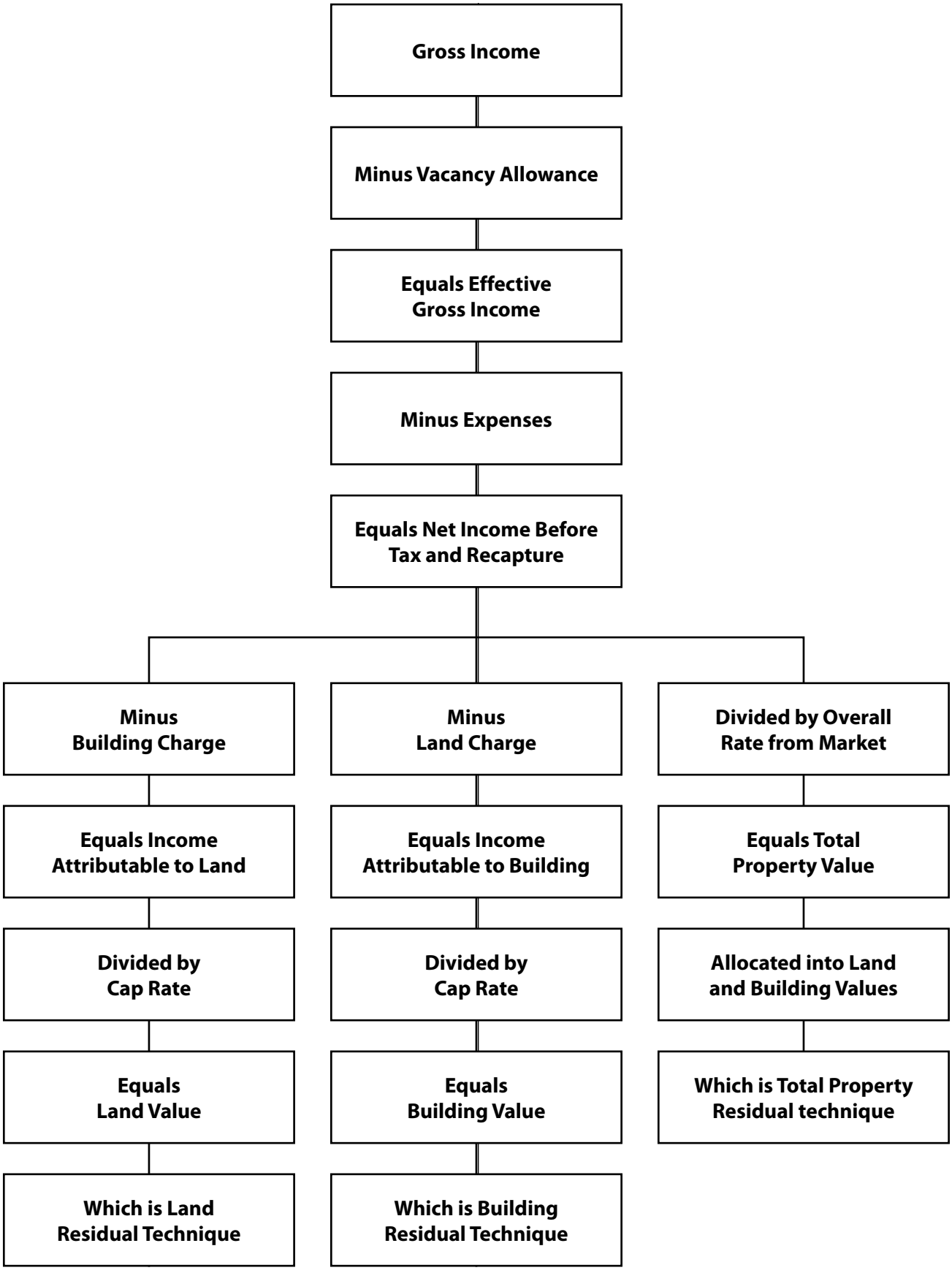
_____,

_____,

_____.

We will be discussing the Building Residual technique first, then the process for the Land Residual technique. The Property Residual technique will not be discussed, but it will be useful for you to keep the concept in mind. Now study the following chart:

Residual Techniques



5.7

In order to use the Building Residual technique, you must know the value of the land. The Building Residual technique is used when land values are stable and easily estimated by sales and market data. It is also used when the amount of depreciation is difficult to accurately determine because of age.

Work through this example:

> The net income for a commercial property is $37,000. The value of the land portion is estimated by market data to be $50,000. The appropriate interest rate for land is 7% and the effective tax rate is 3.5%.

First, figure the capitalization rate for the land portion of the property and write it here. _____

5.8

Second, how much money is required to cover the investment costs for the land? _____

5.9

We may consider that $5,250 of the income of the property is directly attributable to the land. Now, what is the residual income attributable to the building? _____

The $31,750 is the amount of income attributable to the building and is called building income.

Now we will condense the information you have developed. (This pattern is useful in working up information for the Building Residual technique.)

Total net income	$37,000
Capitalization rate – land (10.5%)	
Interest and tax on land value ($50,000 x 10.5%)	5,250
Net income residual to building	$31,750

5.10

Next calculate the value of the building. The capitalization rate on the building is 15.5%. What is the value of the building? _____

5.11

To complete the problem, what is the value of the property? _____

5.12

Finally, we can pull the information together for clarity:

Total net income	$37,000
Capitalization rate – land (10.5%)	
Interest and tax on land value ($50,000 x 10.5%)	5,250
Net income residual to building	$31,750
Capitalization rate - building (15.5%)	
Building value ($31,750 ÷ 15.5%)	$204,839
Land value	50,000
Total property value	$254,839

If you were to use the Land Residual technique, you would begin by first calculating the building portion of net income and then estimating the land value by capitalization of the residual income.

Since we are primarily interested here in the Building Residual technique, let us use the following information and the Building Residual technique to estimate the property value through capitalization of income.

5.13

The subject property has an annual net income of $42,000. By analysis of comparable properties, you have estimated the land value to be $106,000. The capitalization rate for the land is 8.5% and for the building it is 10.5%.

Estimate (1) the net income residual to the building and (2) the value of the property.

1. Net income residual to building _____.

2. Value of property _____.

5.14

The subject property is an apartment complex with an annual net income of $38,000. After the analysis of comparable properties, you have estimated the land value to be $85,000. The capital-

ization rate for the land is 9% and for the building it is 11%.

Determine (1) the net income residual to the building and (2) the value of the property (round off your answer to the nearest $50.)

1. Net income residual to building _____.

2. Value of property _____.

5.15

Following is a Land Residual problem. You will immediately recognize the similarity of this technique with the Building Residual technique.

The net income for a commercial property is $60,000. The value of the building has been estimated to be $400,000. The appropriate interest rate for the building is 7%, the effective tax rate is 1.5%, and the reasonable recapture rate is 4%.

First, we calculate the capitalization rate for the building portion of the property. What is this capitalization rate? _____%.

5.16

Second, how much income is required to cover the investment cost of the building? _____.

5.17

What is the residual income that is attributable to the land? _____. What is the value of the land? _____.

EXERCISE

Check your progress by doing the following problems.

1. Property ABC has a net income of $32,500. The value of the land is estimated to be $38,000. The capitalization rate for the land is 9.5%. What is the net income residual to the building? _____.

2. You are to appraise a property which has a net income of $48,700. The estimated land value is $62,000. The capitalization rate for the land is 8.5% and for the building 11.5%. What is the value of the building? _____.

   Of the total property? _____.

3. The net income of a commercial property is $38,500. Analysis of the subject property has revealed the building to be worth $234,000. The appropriate interest rate for the building is 8.5%, the effective tax rate is 1.5% and the reasonable recapture rate is 4%.

   Determine (1) the net income residual to the land (2) the value of the property.

   a. Net income residual to land _____

   b. Value of property _____

   c. What residual technique is demonstrated in this problem?

4. You are given a complex of mini-warehouses with a net income of $82,000 to appraise. The land value was estimated to be $122,000. The appropriate interest rate for this type property is 7.5%, the effective tax rate is 1.5%, with reasonable recapture rate of 2.5%.

   a. What is the value of the building?

   _____

   b. What is the value of the total property?

   _____

Lesson 5: Answers

5.1

Non-wasting

Buildings depreciate while land tends to remain constant in value.

5.2

Land

If the building has earned some specific portion of the income of a property, the residual income must have been earned by the land.

5.3

Residual

Part of the income of a property is earned because of the land, and part is earned by the building. In premises which are rented furnished, part of the income is attributable to the furnishings.

5.4

Building

5.5

Land

5.6

Building Residual technique, Land Residual technique, Property Residual technique. (Any order.)

5.7

10.5%

Effective interest rate plus effective tax rate = capitalization rate for land;

7% + 3.5% = 10.5%

5.8

$5,250

$50,000 x 10.5% = $5,250. This is frequently referred to as the land charge.

5.9

$31,750

$37,000 - $5,250 = $31,750. Net income minus income attributable to land equals residual income attributed to the building.

5.10

$204,839

Income ÷ Rate = Value or $31,750 ÷ 15.5% = $204,839

5.11

$254,839

$204,839 + $50,000 = $254,839

5.13

1. $32,990

2. $420,190

Total net income	$42,000
Capitalization rate – land (8.5%)	
Capitalization rate x land value ($106,000)	9,010
1. Net income residual to building	$32,990
Capitalization rate - building (10.5%)	
Value of building ($32,990 ÷ .105)	$314,190
Value of land (from above)	106,000
2. Total property value	$420,190

5.14

1. $30,350

2. $360,909

Total net income	$38,000
Capitalization rate – land (9%)	0.09
Capitalization rate x land value (0.09 x $85,000)	7,650
1. **Net income residual to building**	**$30,350**
Capitalization rate - building (11%)	0.11
Value of building ($30,350 ÷ 0.11)	$275,909
Value of land (from above)	85,000
2. **Total property value**	**$360,909**
Rounded off	$360,900

5.15

12.5% (7% + 1.5% + 4%)

5.16

$50,000

$400,000 x 0.125 (This is frequently referred to as the building charge.)

5.17

$10,000 . . . $117,650

$60,000 minus $50,000, or net income of the property minus the income attributed to the building. The $10,000 is the amount of income attributable to the land, and is called the land charge. The land value is the land income divided by the land rate, or $10,000 ÷ 0.085 = $117,647 or 117,650.

ANSWERS TO EXERCISE

1. $28,890

Total net income	$32,500
Capitalization rate – land (9.5%)	0.095
Interest and tax on land value ($38,000 x 0.095)	3,610
Net income residual to building	$28,890

2. Building value $377,652

Total property value $439,650

Total net income	$48,700
Capitalization rate – land (8.5%)	0.085
Interest and tax on land value (0.085 x $62,000)	5,270
Net income residual to building	$43,430
Capitalization rate - building (11.5%)	0.115
Building value ($43,430 ÷ 0.115)	$377,652
Land value	62,000
Total property value	$439,652
	or $439,650

3. a. $ 5,740 Net income residual to land

b. $291,400 Value of the property

c. Land residual technique

Total net income	$38,500
Value of building	$234,000
Capitalization rate—building (0.085 + 0.04 + 0.015) = 14%	0.14
Net income to building $234,000 x 0.14	$32,760
Net income residual to land	$5,740
Capitalization rate—land (0.085 + 0.015) = 10%	0.10
Value of land ($5,740 ÷ 0.10)	$57,400
Value of property	$291,400

4. a. $617,565 Building value

b. $739,565 Total property value

Total net income	$82,000
Capitalization rate – land (.075 + 0.015 = 9%)	0.09
Income to land (0.09 x $122,000)	$10,980
Net income residual to building	$71,020
Capitalization rate - building (0.075 + 0.015 + 0.025 = 0.115) = 11.5%	0.115
Building value ($71,020 ÷ 0.115)	**$617,565**
Land value	$122,000
Total property value	**$739,565**
Rounded	$739,560