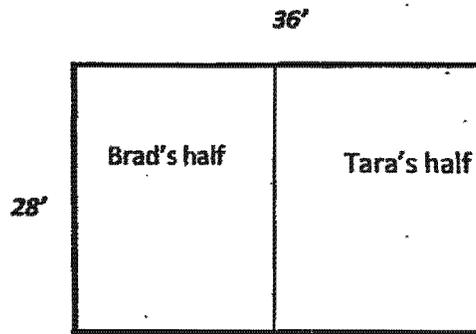| Tara and Brad's House |
|---|

Tara and Brad just built a new home. They decided that each of them would get to pick out flooring for one half of the home. Brad decided to cover ¾ of his half with hard wood floors and ¼ of his half with carpet. Tara wanted to cover ½ of her half with hard wood floors and the other ½ with carpet. How many square feet of floor will be covered by each type of flooring?

36'

Brad's half	Tara's half

28'

Tara and Brad just built a new home. They decided that each of them would get to pick out flooring for one half of the home. Brad decided to cover ¾ of his half with hard wood floors and the rest of his half with carpet. Tara wanted to have an equal amount of hard wood and carpet on her half. How many square feet of floor will be covered by each type of flooring?

Answere ★

378²ft. of carpet
630²ft. of wood
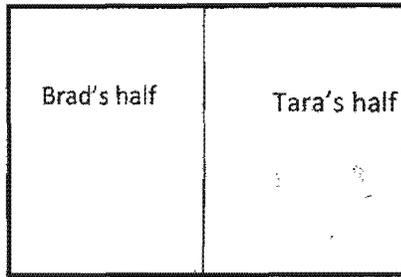
36'

Brad's half	Tara's half

28'

I am going to find out how many square feet of floor will be covered by each type of flooring.

IMP INFO: the house is 36×28, they are separating it in half, 3/4ths of brads' half is wood and 1/4 carpet, 1/2 of Taras half is wood the rest carpet.

I'm going to use a mathmatical equation to find the answere.

36 × 28 = 1008²ft (the total area)
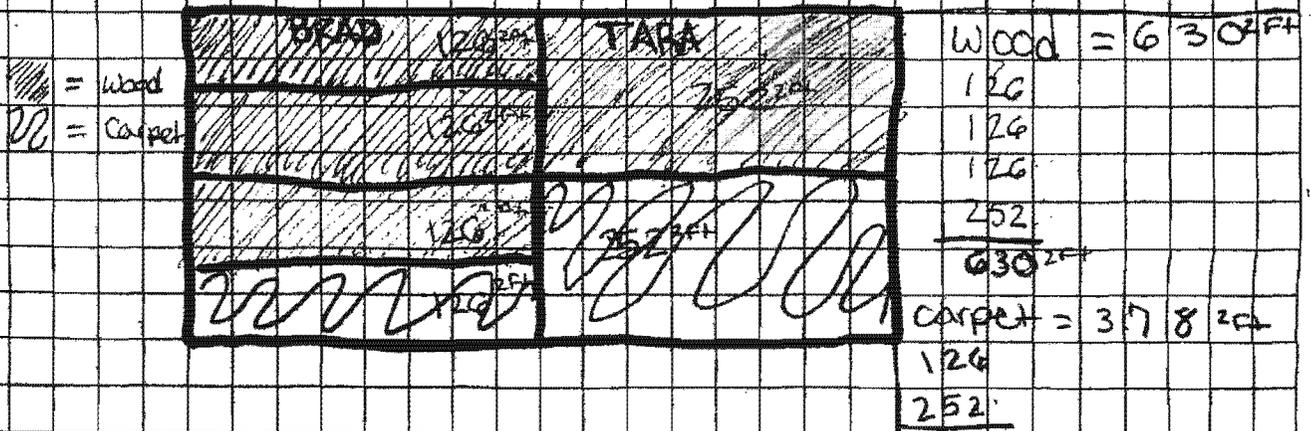1008 ÷ 2 = 504²ft (half of the total area)
504 ÷ 2 = 252²ft (one fourth of the total area)
504 ÷ 4 = 126²ft (one eighth)
126 × 3 = 378²ft (three eighths)

= wood
= carpet

BRAD   TARA

Wood = 630²ft
126
126
126
252
—
630²ft

Carpet = 378²ft
126
252
—
378²ft

6.1.2 #17 p.1

★ Check

$9 \times 28 = 262$

TARA

$9 \times 28 = 252$

$14 \times 9 = 126$ $14 \times 9 = 126$

BRAD

$14 \times 9 = 126$ $14 \times 9 = 126$

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28

12
12
12
+ 2 6
03

cu
2 5
+ 1 2
37

Scores and Commentary: Tara and Brad's House, Paper #6.1.2 - 17

Making Sense of the Task (MS)	Representing and Solving the Task (RS)	Communicating Reasoning (CR)	Accuracy (AC)	Reflecting and Evaluating (RS)
6	6	5	5	5

MS 6: The interpretation of the task is thoroughly developed through analysis of the areas as fractional parts of the whole area. The translation is enhanced by the two mathematical interpretations of the fractional partition.

RS 6: The original approach uses a fractional analysis of the space in an insightful way. The reflection was drawn full size, partitioned in a different way and calculated using actual dimensions. The two methods support one another.

CR 5: The use of language and reasoning is insightful (fractional analysis) and enhanced with graphics. The reasoning that the way the spaces are partitioned will not change the areas is also insightful.

Acc 5: The solution/outcome is correct and enhanced because of the two approaches of fractional analysis and full-size model and actual dimensional calculations.

RE 5: The solution is justified completely by reworking the task using different methods of partitioning and calculating area.

Tara and Brad just built a new home. They decided that each of them would get to pick out flooring for one half of the home. Brad decided to cover ¾ of his half with hard wood floors and ¼ of his half with carpet. Tara wanted to cover ½ of her half with hard wood floors and the other ½ with carpet. How many square feet of floor will be covered by each type of flooring?

36'

$18 \times 7 = 126$

Hardwood floor Brad's half | Hard wood floor Tara's half

28'

Carpet | Carpet

$18 \times 14 = 248$
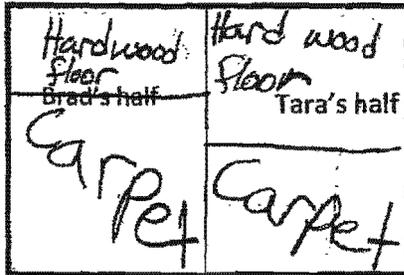
$21 \times 18 = 378$

I will find out how many square Units of floor will be covered by each type of floor.

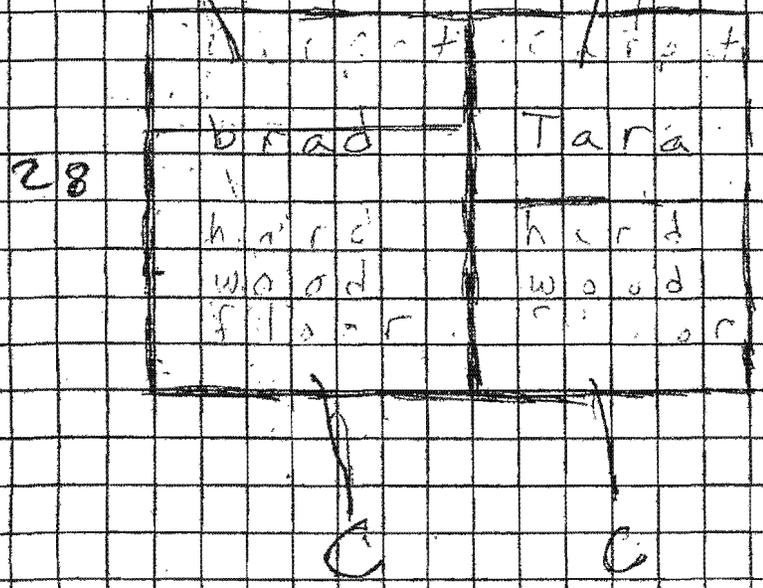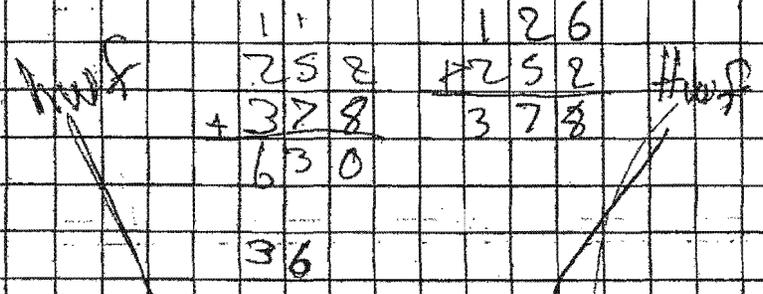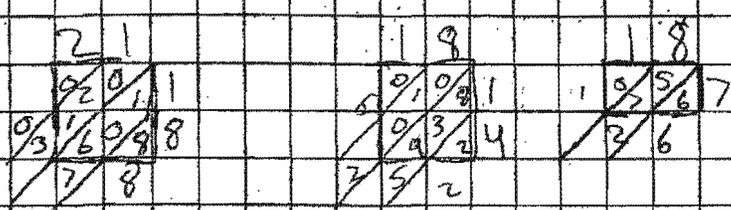I will use the picture that is above to find out the answer.

there is 374 Units of hard wood floor in the house. there is 626 square units of carpet in the house.

I got my answer by checking Brads half of hard wood floor Then Taras then I added it to get and I did the same thing with carpet.

When I checked my answer I notic The first time I multiplied wrong but the second time I multiplied right. My answer the second time was hard wood floor 378 units² and carpet was 630 units²

6.1.2 A3 p.1

I will check my answer by doing
the same thing again.

HWF = 378 Units^2
C = 630 Units^2
Answers

Lattice multiplication grids and addition work:

252
+378
630

36

28

brad   Tara
hard   hard
wood   wood
flor   clor

C   C

Scores and Commentary: Tara and Brad's House, Paper #6.1.2-A3

Making Sense of the Task (MS)	Representing and Solving the Task (RS)	Communicating Reasoning (CR)	Accuracy (Acc)	Reflecting and Evaluating (RS)
4	4	3	3	3

MS 4: The interpretation of the task is adequate. Labeling the diagram and restating the problem is sufficient.

RS 4: The student uses an effective strategy to solve the problem. Although mislabeled, the steps to the numerical answers are complete. The student switched the hardwood and carpet on Brad's side of the house.

CR 3: There are significant gaps in communication. The student does not show how numbers were determined the in the equations. There is no record of how 18, 7, 21 and 14 were derived for the calculations.

Acc 3: The final numbers are correct, but they are mislabeled. The correct answers are 378 ft^2 of carpet and 630 ft^2 of hardwoods.

RE 3: The reflection only partially justifies the solution because the diagram was correctly labeled and then reversed to match the original incorrect labeling. Based on the data in the task, having less hardwood than carpet is an unreasonable answer and should have been addressed.

Tara and Brad just built a new home. They decided that each of them would get to pick out flooring for one half of the home. Brad decided to cover ¾ of his half with hard wood floors and ¼ of his half with carpet. Tara wanted to cover ½ of her half with hard wood floors and the other ½ with carpet. How many square feet of floor will be covered by each type of flooring?

36'

| Brad's half | Tara's half |

28'
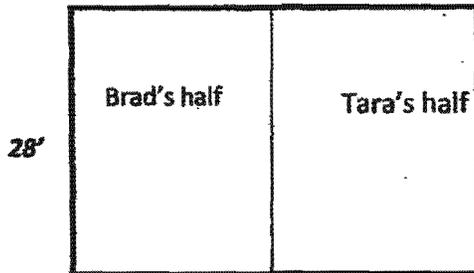
I am going to find out how many square feet of floor will be covered by each type of flooring.

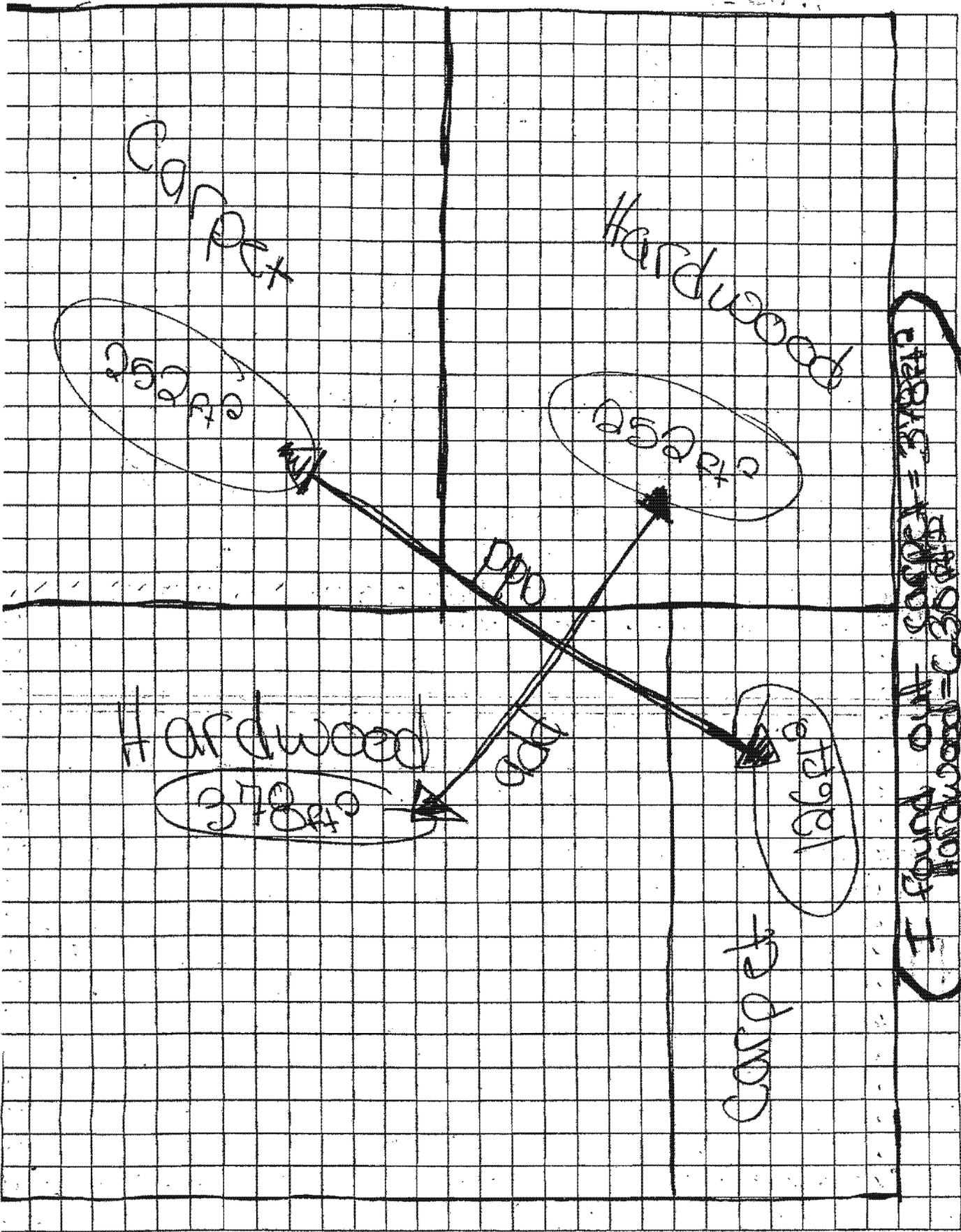Imp Info - 36' 28' 3/4 hard wood 1/4=carpet ½ hardwood ½ carpet

I'm going to solve this problem by drawing a picture.

times by 4 because each square = 2feet

1 = 2feet

```
        37 8
+ hardwood 2 5 2
        6 30
```

```
        2 5 9
+ carpet 1 3 8
        3 28
```
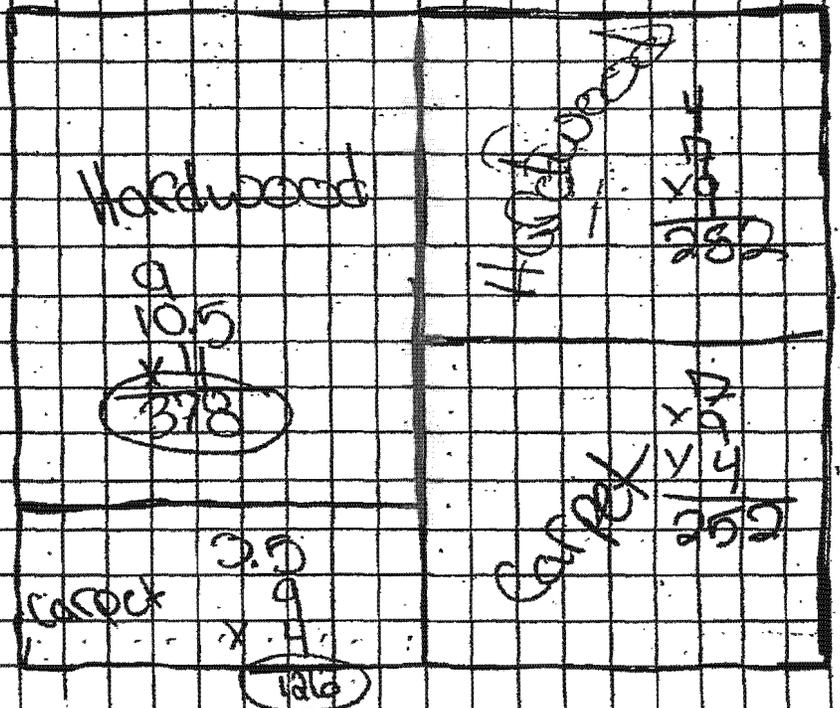
Hardwood
9
10.5
× 4
37.8

Hardwood
× 4
28

carpet
3.5
× 4
14.6

carpet
× 4
25.2

6.1.2 - A1

Carpet

252 ft²

Hardwood

Hardwood
378 ft²

Carpet

252 ft²

old

cat

192 ft²

Carpet = 252 + 192 = 444
Hardwood = 252 + 378 = 630

ANSWER

6.1.2 — A1 p.2

Scores and Commentary: Tara and Brad's House, Paper #6.1.2 -A1

Making Sense of the Task (MS)	Representing and Solving the Task (RS)	Communicating Reasoning (CR)	Accuracy (Acc)	Reflecting and Evaluating (RS)
5	5	4	4	3

MS 5: The interpretation and translation of the task are thoroughly developed. The student recognized that the 2-foot by 2-foot squares have an area of 4 square feet (although the key was mislabeled). The restatement of the problem includes all important information.

RS 5: The representations are enhanced through connections between the scale drawing and calculations. The method of multiplying each area by 4 is elegant.

CR 4: The communication is clear and leads to a clearly identified solution. The student uses well-labeled equations and models.

Acc 4: The solution is correct, mathematically justified, and supported by the work. The areas of 630 and 378 are correct.

RE 3: The solution is stated in the context of the problem. The calculations are not adequately justified. It appears the student has merely copied them from the original. To meet standard there should be evidence of how the areas were determined.