Target Sampling Mathematics Grade 7						
Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
1. Concepts and Procedures	Priority Cluster	**A. Analyze proportional relationships and use them to solve real-world and mathematical problems.** (Target Description) Tasks for this target will require students to identify and represent proportional relationships in various formats (tables, graphs, equations, diagrams, verbal descriptions) and interpret specific values in context. (See 7.G Target E for possible context.) Other tasks will require students to compute unit rates including those associated with ratios of fractions. (Evidence Required) 1. The student computes unit rates and finds the constant of proportionality of proportional relationships in various forms. 2. The student determines whether two quantities, shown in various forms, are in a proportional relationship. 3. The student represents proportional relationships between quantities using equations. 4. The student interprets specific values from a proportional relationship in the context of a problem situation. 5. The student computes with percentages in context. (Range ALDs) **Level 1** Students should be able to identify proportional relationships presented in graphical, tabular, or verbal formats in familiar contexts. **Level 2** Students should be able to find whole number proportionality constants in relationships presented in graphical, tabular, or verbal formats in familiar contexts. They should also be able to identify proportional relationships presented in equation formats and find unit rates involving whole numbers. **Level 3** Students should be able to identify, represent, and analyze proportional relationships in various formats; find unit rates associated with ratios of fractions; and use unit rates to solve one-step problems involving rational numbers. They should be able to analyze a graph of a proportional relationship in order to explain what the points (*x, y*) and (1, *r*) represent, where r is the unit rate, and use this information to solve problems. **Level 4** Students should be able to solve real-world problems involving proportional relationships and measurement conversions in various formats (e.g., verbally, tabular, graphically) in a contextual scenario that involves identifying relationships between elements presented in various formats.	2	8-9	0	17-20

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Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
		D. Solve real-life and mathematical problems using numerical and algebraic expressions and equations. (Target Description) Tasks for this target will require students to calculate with numbers in any form and convert between forms. Other tasks will require students to solve word problems leading to the equations $px + q = r$ and $p(x + q) = r$ or leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. (Evidence Required) 1. The student identifies equivalency between two rational numbers. 2. The student applies properties of operations to evaluate numeric expressions, including converting between different forms of rational numbers. 3. The student solves word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. 4. The student solves word problems leading to inequalities of the form $px + q > r$ and $px + q < r$, where p, q, and r are specific rational numbers. 5. The student graphs the solution set of an inequality on a number line. (Range ALDs) **Level 1** Students should be able to solve multi-step problems with integers or common fractions with denominators of 2 through 10, 25, 50, or 100 and decimals to the hundredths place; solve equations in the form of $px + q = r$, where p, q, and r are integers; and distinguish between inequalities and equations with integer coefficients with or without real-world context. **Level 2** Students should be able to solve multi-step problems with rational numbers and solve equations in the form of $px + q = r$ or $p(x + q) = r$, where p, q, and r are rational numbers. Students should be able to use variables to represent quantities in familiar real-world and mathematical situations. They should also be able to create equations with variables to solve familiar problems with a high degree of scaffolding. **Level 3** Students should be able to solve and graph solution sets to inequalities with one variable. They should be able to use variables to represent and reason with quantities in real-world and mathematical situations with minimal scaffolding. They should also be able to construct equations with variables to solve problems. **Level 4** Students should be able to use variables to represent and reason with	1,2			

Target Sampling Mathematics Grade 7						
Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
		quantities in real-world and mathematical situations with no scaffolding. They should be able to construct inequalities with more than one variable to solve problems.				
		B. Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers. (Target Description) Tasks for this target will require students to add and subtract rational numbers, including problems that connect these operations to distance between numbers on a number line, and the concept of absolute value as it relates to distance on a number line. Other tasks will ask students to multiply and divide rational numbers and convert rational numbers to decimals. (Evidence Required) 1. The student interprets rational number values on a number line, including modeling addition and subtraction expressions. 2. The student applies properties of operations as strategies to add and subtract rational numbers. 3. The student applies properties of operations as strategies to multiply and divide rational numbers. 4. The student converts from a fractional form of rational numbers to a decimal form of rational numbers. 5. The student solves real-world and mathematical problems involving the four operations with rational numbers. (Range ALDs) **Level 1** Students should be able to add, subtract, multiply, and divide nonnegative rational numbers. They should be able to add, subtract, multiply, and divide rational numbers with a number line or other manipulative. **Level 2** Students should be able to apply and extend previous understandings and properties of addition and subtraction to add and subtract with rational numbers; identify the absolute value of a rational number and understand when opposites combine to make 0; and convert between familiar fractions and decimals. **Level 3** Students should be able to solve mathematical problems using the four operations on rational numbers and convert from a fraction to a decimal. They should be able to extend previous understandings of subtraction to realize it is the same as adding the additive inverse. They should also be able to understand $p + q$ as a number located $\|q\|$ units from p	1, 2	5-6		

Target Sampling Mathematics Grade 7						
Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
		on a number line in either direction depending on the sign of *q*. They should also know, understand, and use the rules for multiplying and dividing signed numbers. **Level 4** Students should be able to apply previous understandings of operations to solve real-world problems involving rational numbers with addition, multiplication, subtraction, and division.				
		C. Use properties of operations to generate equivalent expressions. (Target Description) Tasks for this target will require students to add, subtract, factor, and expand linear expressions with rational coefficients. (Evidence Required) 1. The student adds and subtracts linear expressions with rational coefficients. 2. The student factors linear expressions with rational coefficients. 3. The student expands linear expressions with rational coefficients. 4. The student generates equivalent linear expressions using a combination of addition and subtraction, factoring, and expansion. (Range ALDs) **Level 1** Students should be able to apply properties of operations as strategies to add and subtract linear expressions with integer coefficients. **Level 2** Students should be able to apply properties of operations as strategies to factor and expand linear expressions with integer coefficients. They should also be able to add and subtract linear expressions with rational coefficients. **Level 3** Students should be able to apply properties of operations as strategies to factor and expand linear expressions with rational coefficients. They should understand that rewriting an expression can shed light on how quantities are related in a familiar problem-solving context with minimal scaffolding. **Level 4** Students should understand that rewriting an expression can shed light on how quantities are related in an unfamiliar problem-solving context with no scaffolding.	1, 2			
	Supporting Cluster	**E. Draw, construct, and describe geometrical figures and describe the relationship between them.** (Target Description) Tasks associated with this target will ask students to create scale drawings or	1 ,2	2-3		

Target Sampling Mathematics Grade 7						
Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
		apply an understanding of scale factor to solve a problem, often paired with 7.RP Target A. Other tasks for this target will require students to draw geometric shapes with given conditions. Some tasks, such as those that require students to provide reasoning to explain why certain conditions cannot lead to a particular shape, will lead to evidence for Claim 3. (Evidence Required) 1. The student creates scale drawings. 2. The student solves problems involving scale drawings using proportional reasoning. 3. The student draws, constructs, or describes geometric shapes given certain conditions. 4. The student describes a two-dimensional figure resulting from slicing a three-dimensional figure by a plane. (Range ALDs) **Level 1** Students should be able to draw or construct geometric shapes with given conditions by freehand, with ruler and protractor, and by using technology. **Level 2** Students should be able to describe geometric shapes with given conditions, and determine whether or not a set of any three given angle or side-length measures can result in a unique triangle, more than one triangle, or no triangle at all. They should be able to describe the relationship between a geometric figure and its scale drawing by finding the scale factor between them. **Level 3** Students should be able to compute actual lengths and areas from a scale drawing, and reproduce a scale drawing using a different scale. They should be able to describe the two-dimensional figures that result from slicing prisms and pyramids by planes that are parallel to a given face. **Level 4** Students should be able to describe the two-dimensional figures that result from slicing cones, spheres, cylinders, or other three-dimensional figures with rectangular or triangular faces by planes that are not parallel to a given face.				
		F. Solve real-life and mathematical problems involving angle measure, area, surface area, and volume. (Target Description)	1, 2			

Target Sampling Mathematics Grade 7						
Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
		Tasks for this target will require students to solve problems for circumference, area, volume, and surface area of two and three dimensional objects. Other tasks (paired with 7.EE Target D) will require students to write and solve equations to determine an unknown angle in a figure. (Evidence Required) 1. The student solves real-life and mathematical problems for the circumference and area of circles. 2. The student solves real-life and mathematical problems involving angle measure including problems requiring writing and solving equations. 3. The student solves real-life and mathematical problems for the area of two-dimensional objects composed of polygons. 4. The student solves real-life and mathematical problems for the volume and surface area of three-dimensional objects composed of right prisms and cubes. (Range ALDs) **Level 1** Students should be able to identify appropriate formulas for the area and circumference of a circle; calculate the area of triangles and rectangles and the volume of cubes; classify pairs of angles as supplementary, complementary, vertical, or adjacent; and measure angles with appropriate tools. **Level 2** Students should be able to use supplementary, complementary, vertical, or adjacent angles to solve problems with angles expressed as numerical measurements in degrees; calculate the circumference of a circle; and calculate the area of circles, quadrilaterals, and polygons and the volume of right rectangular prisms. **Level 3** Students should be able to use supplementary, complementary, vertical, and adjacent angles to solve one or two-step problems with angle measures expressed as variables in degrees; use formulas for the area and circumference of a circle to solve problems; and solve problems involving the area of polygons, the surface area of three-dimensional objects composed of triangles and/or quadrilaterals, and the volume of right prisms. **Level 4** Students should be able to solve problems involving surface area and volume of three-dimensional figures with polygonal faces. They should be able to use supplementary, complementary, vertical, and adjacent angles to solve multi-step problems with angle measures expressed as variables in				

Target Sampling Mathematics Grade 7						
Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
		degrees.				
		G. Use random sampling to draw inferences about a population. (Target Description) Tasks for this target will ask students to evaluate statements about a sample relative to a population. (Evidence Required) 1. The student determines whether a sample is representative of a population. 2. The student draws inferences about a population using data from a random sample. (Range ALDs) **Level 1** Students should be able to describe what a representative sample entails and identify biased and unbiased samples of a population. **Level 2** Students should be able to determine whether or not a sample is random and understand that random samples of an appropriate population are representative samples that support valid results. They should be able to use data from a random sample to draw obvious inferences about a population presented in a familiar context. **Level 3** Students should be able to use data from a random sample to draw inferences about a population with an unknown characteristic of interest presented in an unfamiliar context. **Level 4** Students should be able to generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions.	1, 2	1-2		
		H. Draw informal comparative inferences about two populations. (Target Description) Tasks for this target will require students to make informal inferences about two populations based on measures of center and variability. (Evidence Required) 1. The student makes comparisons between two numerical data distributions. (Range ALDs) **Level 1** Students should be able to use the mean to compare and draw inferences about two different populations. **Level 2** Students should be able to use range to draw comparisons about two different populations. They should be able to informally compare the visual	2			

Target Sampling Mathematics Grade 7						
Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
		overlap of two numerical data distributions with similar variability in familiar contexts. **Level 3** Students should be able to informally assess the degree of visual overlap of two numerical data distributions with similar variability, measuring the difference between the centers in any context. **Level 4** Students should be able to use measures of variability for numerical data from random samples to draw informal comparative inferences about two populations.				
		I. Investigate chance processes and develop, use, and evaluate probability models. (Target Description) Tasks for this target will ask students to find probabilities of events, including compound events, with some focusing specifically on understanding the likelihood of an event as a probability between 0 and 1. Some tasks will target comparisons between predicted and observed relative frequencies. (Evidence Required) 1. The student understands the likelihood of an event as a probability between 0 and 1. 2. The student finds probabilities of simple events. 3. The student compares predicted probabilities to observed frequencies. 4. The student finds probabilities of compound events. (Range ALDs) **Level 1** Students should be able to determine the theoretical probability of a simple event; understand that probabilities are numbers between 0 (impossible) and 1 (always) and that a probability around ½ indicates an event that is neither unlikely nor likely. **Level 2** Students should be able to approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long run relative frequency. They should be able to predict the approximate relative frequency given the probability. **Level 3** Students should be able to find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. They should be able to compare theoretical and experimental results from a probability experiment. **Level 4** Students should be able to design, describe, and construct a simulation experiment to generate frequencies for compound events. They	1, 2			

Target Sampling Mathematics Grade 7						
Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
		should be able to explain what might account for differences between theoretical and experimental results and evaluate the associated probability model.				
2. Problem Solving 4. Modeling and Data Analysis	Problem Solving (drawn across content domains)	**A. Apply mathematics to solve well-posed problems arising in everyday life, society , and the workplace.** (General Task Model Expectations) 1. The student is asked to solve a well-posed problem arising in a mathematical context or a context from everyday life, society, or the workplace. 2. Mathematical information from the context is presented in a table, graph, or diagram, or is extracted from a verbal description or pictorial representation of the context. 3. Solving the problem requires, in Grades 6–7, understanding of and proficiency with ratios, rates and proportional relationships, the number system, or expressions and equations; in Grade 8, understanding of and proficiency with expressions and equations, functions, and geometry and geometric measurement. 4. Understandings from statistics, probability, and geometry may be needed to set up the problem, but are not the primary focus of the problem (except that geometry is a legitimate primary focus in Grade 8). Claim 4 is the proper place for problems whose primary focus is statistics or probability. 5. The task does not indicate by key words or other scaffolding which arithmetic and algebraic operations, and which geometry constructions or transformations, are to be performed or in what order. 6. Difficulty of the task may be varied by varying (a) the difficulty of extracting information from the context (b) the number of steps or (c) the complexity of the expressions, equations, functions, or geometric figures or measurements used.	2, 3	2	1-2	8-10
		B. Select and use appropriate tools strategically. (General Task Model Expectations) 1. Mathematical information from the context is presented in a table, graph, or diagram, or is extracted from a verbal description or pictorial representation of the context. 2. Tasks aligned to this task model focus on using tools to solve problems or making strategic choices about which tool to use or whether to use a tool to solve a problem. 3. Difficulty of the task may be varied by varying (a) the difficulty of extracting	1, 2, 3	1		

Target Sampling Mathematics Grade 7						
Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
		information from the context, (b) the number of steps, (c) the complexity of the numbers used, or (d) the complexity of the interpretation required. **C. Interpret results in the context of a situation.** (General Task Model Expectations) 1. The student is asked to interpret the solution of a well-posed problem arising in a context from everyday life, society, or the workplace, and then to interpret the solution in terms of the context. 2. Possible interpretations include: giving the units of an answer and explaining their meaning, interpreting parts of an expression, and interpreting the solution to an equation. Problems involving interpreting data are more likely to fit into Claim 4C than Claim 2C. 3. Because the focus is on interpreting the solution, items in this task model will generally have lower cognitive demand in the problem solving aspects than items in task models for 2A and 2B. 4. Mathematical information from the context is presented in a table, graph, or diagram, or is extracted from a verbal description or pictorial representation of the context. 5. Solving the problem requires either using units, writing an expression in an equivalent form, setting up and solving an equation or system of equations, or calculating geometric measures. 6. Difficulty of the task may be varied by varying (a) the difficulty of extracting information from the context (b) the number of steps (c) the complexity of the numbers used or (d) the complexity of the interpretation required. **D. Identify important quantities in a practical situation and map their relationships (e.g., using diagrams, two-way tables, graphs, flow charts, or formulas).** (General Task Model Expectations) 1. The student is presented with a mathematical problem in a real-world context where the quantities of interest are not named explicitly, are named but represented in different ways, or the relationship between the quantities is not immediately clear. 2. The student is asked to solve a problem that may require the integration of concepts and skills from multiple domains. 3. Target 2D identifies a key step in the modeling cycle, and is thus frequently present in problems with real-world contexts. Note that Target 2D is rarely the primary target for an item, but is frequently a Secondary or Tertiary				

Target Sampling Mathematics Grade 7						
Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
		Target for an item with primary alignment to 2A, 2B, or 2C; see example items for many of the task models in those Targets.				
	Modeling and Data Analysis (drawn across content domains)	**A. Apply mathematics to solve problems arising in everyday life, society, and the workplace.** (General Task Model Expectations) 1. The student is asked to solve a problem arising in everyday life, society, or the workplace. 2. Information needed to solve the problem has a level of complexity that is not present in items within Claim 2 Target A. For example, the student must • distinguish between relevant and irrelevant information, or • identify information that is not given in the problem and request it, or • make a reasonable estimate for one or more quantities and use that estimate to solve the problem. 3. The student must select a mathematical model independently and is not directly told what arithmetic operation or geometric structure to use to solve the problem. 4. Tasks in this model often have secondary alignments to other Claim 4 targets, in particular Target 4B, constructing autonomous chains of reasoning, Target 4D, requiring the student to interpret results in the context of the problem, and Target 4F, requiring students to identify quantities and map relationships between them. 5. Problems in this model may have more than one possible solution. 6. The student is often required to draw upon knowledge from different domains, including knowledge from earlier grade-levels. **D. Interpret results in the context of a situation.** (General Task Model Expectations) 1. The student is presented with a problem situation in everyday life, society, or the workplace or a mathematical model of such a situation. The student interprets the solution to the problem in terms of the context, in terms of the model, or compares the results of the model with the real-world data it represents. • Item types with a primary alignment to 4D focus on interpreting results in terms of the model or comparing the results of the model with the real-world data it represents. • It is not necessary for a student to generate a complete solution for problems with a primary alignment to this target. 2. Tasks in Targets 4A, 4C, 4E, and 4F frequently have this target as a tertiary	2, 3	1	1–3	

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Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
		or quaternary alignment because students must interpret their results in terms of the context. 3. The student is often required to draw upon knowledge from different domains, including knowledge from earlier grade-levels.				
		B. Construct, autonomously, chains of reasoning to justify mathematical models used, interpretations made, and solutions proposed for a complex problem. (General Task Model Expectations) 1. The student is presented with a multi-step problem with little or no scaffolding, or 2. The student must make estimates or choose between different reasonable assumptions in order to solve the problem. 3. Note that Target 4B is never the primary target for an item, but is frequently a Tertiary or Quaternary Target for an item with primary alignment to other targets; see, for example, items in Task Models for 4A, 4C, and 4E. **E. Analyze the adequacy of and make improvements to an existing model or develop a mathematical model of a real phenomenon.** (General Task Model Expectations) 1. The student is presented with a problem arising in everyday life, society, or the workplace. The student either • Chooses between competing mathematical models to solve the problem (which may depend on different interpretations of the problem) • Evaluates a partial or complete (possibly incorrect) solution to the problem • Constructs a mathematical model to solve the problem It is not necessary that a student to generate a complete solution for problems in this target. 2. Tasks in this model can also assess Target 4B (Construct, autonomously, chains of reasoning to justify mathematical models used, interpretations made, and solutions proposed for a complex problem). Thus some tasks should plausibly entail a chain of reasoning to complete the task (not just a single step). For example, it might be necessary for the student to construct a two-step arithmetic expression to evaluate a model or solution, or to try out a geometric shape and then perform a calculation to see if it satisfies the requirements. 3. The student is often required to draw upon knowledge from different	2, 3, 4	1		

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Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
		domains, including knowledge from earlier grade-levels.				
		C. State logical assumptions being used. (General Task Model Expectations) 1. The student is presented with a problem arising in everyday life, society, or the workplace. The student either • identifies information or assumptions needed to solve the problem, • researches to provide information needed to solve the problem, or • provides a reasoned estimate of a quantity needed to solve the problem. It is not necessary that a student constructs a complete solution to the problem for this target. 2. Tasks in this model generally have either more information than is needed solve the problem (and students must choose) or not enough information (and students must make a reasoned estimate). 3. The student is often required to draw upon knowledge from different domains, including knowledge from earlier grade-levels. 4. Tasks for this target may also assess Target 4F. **F. Identify important quantities in a practical situation and map their relationships (e.g., using diagrams, two-way tables, graphs, flow charts, or formulas).** (General Task Model Expectations) 1. Students are presented with a mathematical problem in a real-world context where the quantities of interest are not named explicitly, are named but represented in different ways, or the relationship between the quantities is not immediately clear. 2. The student is asked to solve a problem that may require the integration of concepts and skills from multiple domains.	1, 2, 3	1		
		G. Identify, analyze, and synthesize relevant external resources to pose or solve problems. (General Task Model Expectations) Measured in performance tasks only, students should have access to external resources to support their work in posing and solving problems (e.g., finding or constructing a set of data or information to answer a particular question or looking up measurements of a structure to increase precision in an estimate for a scale drawing). Constructed response items should incorporate	3, 4	0		

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Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
		"hyperlinked" information to provide additional detail (both relevant and extraneous).				
3. Communicating Reasoning	Communicating Reasoning (drawn across content domains)	**A. Test propositions or conjectures with specific examples.** (General Task Model Expectations) 1. Items for this target should focus on the core mathematical work that students are doing around ratios and proportional relationships, the rational number system, and equations and expressions in grades 6-7 and equations, functions, and geometry in grade 8. 2. In response to a claim or conjecture, the student should: • Find a counterexample if the claim is false, • Find examples and non-examples if the claim is sometimes true, or • Provide supporting examples for a claim that is always true without concluding that the examples establish that truth, unless there are only a finite number of cases and all of them are established one-by-one. The main role for using specific examples in this case is for students to develop a hypothesis that the conjecture or claim is true, setting students up for work described in Claim 3B. 3. False or partially true claims that students are asked to find counterexamples for should draw upon frequently held mathematical misconceptions whenever possible. 4. Note: When asking students for a single example, take care to avoid mathematical language that suggests a single example proves a conjecture. **D. Use the technique of breaking an argument into cases.** (General Task Model Expectations) 1. Items for this target should focus on the core mathematical work that students are doing around ratios and proportional relationships, the rational number system, and equations and expressions in grades 6-7 and equations, functions, and geometry in grade 8. 2. The student is given • a problem that has a finite number of possible solutions, some of which work and some of which don't, or • a proposition that is true in some cases but not others. 3. Items for Claim 3 Target D should either present an exhaustive set of cases to consider or expect students to consider all possible cases in turn in order to distinguish it from items in other targets.	2, 3	3	0-2	8-10

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Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
		B. Construct, autonomously, chains of reasoning that will justify or refute propositions or conjectures. (General Task Model Expectations) 1. Items for this target should focus on the core mathematical work that students are doing around ratios and proportional relationships, the rational number system, and equations and expressions in grades 6-7 and equations, functions, and geometry in grade 8 with mathematical content from other domains playing a supporting role in setting up the reasoning contexts. 2. Items for this target can probe a key mathematical structure such as that found in expressions and equations, ratios and proportional relationships, and the rational number system. 3. Items for this target can require students to solve a multi-step, well-posed problem involving the application of mathematics to a real-world context. The difference between items for Claim 2A and Claim 3B is that the focus in 3B is on communicating the reasoning process in addition to getting the correct answer. 4. Note that in grades 6-8, items provide less structure than items for earlier grades to focus on justifying or refuting a proposition or conjecture. 5. Many machine-scorable items for these task models can be adapted to increase the autonomy of student's reasoning process but would require hand-scoring. **E. Distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in the argument—explain what it is.** (General Task Model Expectations) 1. Items for this target should focus on the core mathematical work that students are doing around ratios and proportional relationships, the rational number system, and equations and expressions in grades 6-7 and equations, functions, and geometry in grade 8. 2. The student is presented with valid or invalid reasoning and told it is flawed or asked to determine its validity. If the reasoning is flawed, the student identifies, explains, and/or corrects the error or flaw. 3. The error should be more than just a computational error or an error in counting, and should reflect an actual error in reasoning. 4. Analyzing faulty algorithms is acceptable so long as the algorithm is internally consistent and it isn't just a mechanical mistake executing a standard algorithm.	2, 3, 4	3		

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Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
		C. State logical assumptions being used. (General Task Model Expectations) 1. Items for this target should focus on the core mathematical work that students are doing around ratios and proportional relationships, the rational number system, and equations and expressions in grades 6-7 and equations, functions, and geometry in grade 8. 2. For some items, the student must explicitly identify assumptions that • Make a problem well-posed, or • Make a particular solution method viable. 3. When possible, items in this target should focus on assumptions that are commonly made implicitly and can cause confusion when left implicit. 4. For some items, the student will be given a definition and be asked to reason from that definition. **F. Base arguments on concrete referents such as objects, drawings, diagrams, and actions.** (General Task Model Expectations) 1. The student uses concrete referents to help justify or refute an argument. 2. In grade 6, items in this task model should focus on the use of number lines. In grade 7, they should focus on number lines and graphs of proportional relationships. In grade 8, they should focus on graphs of linear equations and systems of linear equations and geometric contexts related to transformations of the plane or the Pythagorean Theorem. **G. At later grades, determine conditions under which an argument does and does not apply. (For example, area increases with perimeter for squares, but not for all plane figures.)** (General Task Model Expectations) Target 3G is a closely related extension of the expectations in Targets 3A, 3B, 3C, and 3D, and as with those targets, is often a tertiary alignment for items in those targets. Students often test propositions and conjectures with specific examples (as described in Target 3A) for the purpose of formulating conjectures about the conditions under which an argument does and does not apply. Students then must explicitly describe those conditions (as in Target 3C). Expectations for Target 3D include determining conditions under which an argument is true given cases—the next step is articulating those cases autonomously.	2, 3	2		