Session	Sequence	Item Type	Кеу	Assessable Content
1	1	МС	В	7.EE.A.2 Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, a + 0.05a = 1.05a means that "increase by 5%" is the same as "multiply by 1.05."
1	2	MC	A	7.NS.A.2a Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.
1	3	МС	В	7.EE.B.4a Solve 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. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?
1	4	TE	see TE* item image at end of scoring guide	7.RP.A.2c Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn.
1	5	MS	B, C, F	7.NS.A.3 Solve real-world and mathematical problems involving the four operations with rational numbers.
1	6	MS	С, Е	7.NS.A.1c Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.
1	7	мс	В	7.EE.B.4b Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p , q , and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. For example: As a salesperson, you are paid \$50 per week plus \$3 per sale. This week you want your pay to be at least \$100. Write an inequality for the number of sales you need to make, and describe the solutions.
1	8	МС	В	7.NS.A.2d Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.
1	9	MS	A,D,F	7.NS.A.2b Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $-(p/q) = (-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing real-world contexts.
1	10	MC	D	7.NS.A.1b Understand $p + q$ as the number located a distance $ q $ from p , in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.
1	11	МС	В	7.RP.A.2d Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate.
1	12	MC	D	7.NS.A.1b Understand $p + q$ as the number located a distance $ q $ from p , in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.

*Technology Enhanced

Session	Sequence	Item Type	Кеу	Assessable Content
			see TE* item	7.EE.A.1
1	13	TF	image at end	Apply properties of operations as strategies to add, subtract, factor, and expand linear
1	15	16	of scoring	expressions with rational coefficients.
			guide	
				7.EE.A.2
1	14	SA	0.6	Understand that rewriting an expression in different forms in a problem context can shed
-		577	0.0	light on the problem and how the quantities in it are related. For example, a + 0.05a =
				1.05a means that "increase by 5%" is the same as "multiply by 1.05."
				7.NS.A.2c
1	15	SA	2.25	Apply properties of operations as strategies to multiply and divide rational numbers.
				/.NS.A.20
4	10			Understand that integers can be divided, provided that the divisor is not zero, and every
T	10	IVIC	В	quotient of integers (with non-zero divisor) is a rational number. If p and q are integers,
				then $-(p/q) = (-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing
1	17	мс	C	Solve real-world and mathematical problems involving the four operations with rational
1	17	ivic	c	numbers
				7 NS A 2d
1	18	SA	0.375	Convert a rational number to a decimal using long division: know that the decimal form of a
-	10	0,1	0.070	rational number terminates in Os or eventually repeats.
				7.NS.A.1d
1	19	MC	С	Apply properties of operations as strategies to add and subtract rational numbers.
				7.NS.A.3
1	20	SA	60.29	Solve real-world and mathematical problems involving the four operations with rational
				numbers.
				7.SP.C.7a
				Develop a uniform probability model by assigning equal probability to all outcomes, and
2	21	MC	В	use the model to determine probabilities of events. For example, if a student is selected at
				random from a class, find the probability that Jane will be selected and the probability that
				a girl will be selected .
				7.5P.U.D
				that produces it and observing its long run relative frequency, and prodict the approximate
2	22	MC	В	relative frequency given the probability. For example, when rolling a number cube 600
				times predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200
				times
				7.RP.A.1
				Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and
2	23	MC	C	other quantities measured in like or different units. For example, if a person walks 1/2 mile
-	_0		C C	in each 1/4 hour, compute the unit rate as the complex fraction $\frac{1}{2}/\frac{1}{4}$ miles per hour.
				equivalently 2 miles per hour .
				7.SP.B.4
				Use measures of center and measures of variability for numerical data from random
2	24	мс	в	samples to draw informal comparative inferences about two populations. For example,
_			_	decide whether the words in a chapter of a seventh-grade science book are generally longer
				than the words in a chapter of a fourth-grade science book .
			see TE* item	7.RP.A.2a
2	25	TE	image at end	Decide whether two quantities are in a proportional relationship, e.g., by testing for
2	25	25 TE	E of scoring	equivalent ratios in a table or graphing on a coordinate plane and observing whether the
			guide	graph is a straight line through the origin.
		26 MC		7.RP.A.1
				Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and
2	26		26 MC A	other quantities measured in like or different units. For example, if a person walks 1/2 mile
				in each 1/4 hour, compute the unit rate as the complex fraction $^{1/2}/_{1/4}$ miles per hour,
				equivalently 2 miles per hour .

Session	Sequence	Item Type	Key	Assessable Content
2	27	Part A: MC Part B: SA	Part A: B Part B: 20000	7.RP.A.3 Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent
2	28	CR	See rubric	increase and decrease, percent error. Reasoned estimates: Use reasonable estimates of known quantities in a chain of reasoning that yields an estimate of an unknown quantity using skills and knowledge articulated in Sub-claim A. 7.NS.A.3 Solve real-world and mathematical problems involving the four operations with rational numbers. 7.SP.A.2 Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. <i>For example, estimate the mean</i> <i>word length in a book by randomly sampling words from the book; predict the winner of a</i> <i>school election based on randomly sampled survey data.</i> Gauge how far off the estimate or prediction might be. 7.EE.B.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. <i>For example: If a woman making \$25 an hour gets</i> <i>a 10% raise, she will make an additional 1/10 of her salary an hour, or \$2.50, for a new</i> <i>salary of \$27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door</i> <i>that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge;</i> <i>this estimate can be used as a check on the exact computation</i> .
2	29	CR	See rubric	Solve multi-step contextual word problems with degree of difficulty appropriate to Grade 7, requiring application of knowledge and skills articulated in Sub-claim A 7.NS.A.3 Solve real-world and mathematical problems involving the four operations with rational numbers. 7.EE.B.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. <i>For example: If a woman making \$25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or \$2.50, for a new salary of \$27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.</i>
2	30	CR	See rubric	Base explanations/reasoning on the relationship between addition and subtraction or the relationship between multiplication and division. 7.NS.A.1b Understand $p + q$ as the number located a distance $ q $ from p , in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.

Session	Sequence	Item Type	Кеу	Assessable Content
2	31	Part A: MS	Part A: A, B, E	7.G.A.2 Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides,
		Part B: MS	Part B: A, D, E	noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.
				Base explanations/reasoning on a coordinate plane diagram (whether provided in the prompt or constructed by the student in her response).
2	32	CR	See rubric	7.RP.A.2a Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.
3	33	SA	3	7.RP.A.1 Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction $\frac{1/2}{1/4}$ miles per hour, equivalently 2 miles per hour.
3	34	MC	В	7.SP.A.1 Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.
3	35	MS	A,E	7.RP.A.2a Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.
3	36	CR	See rubric	Given an equation, present the solution steps as a logical argument that concludes with the set of solutions (if any). 7.EE.B.4a Solve 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. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?
3	37	МС	В	7.SP.B.4 Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.
3	38	Part A: MC Part B: SA	Part A: D Part B: 0.36	7.SP.C.8c Design and use a simulation to generate frequencies for compound events. For example, use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?
3	39	SA	84	7.RP.A.3 Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.

Session	Sequence	Item Type	Кеу	Assessable Content
3	40	Part A: SA Part B: SA	Part A: 68.40 Part B: 456	7.EE.B.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. <i>For example: If a woman making \$25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or \$2.50, for a new salary of \$27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.</i>
3	41	CR	See rubric	Construct, autonomously, chains of reasoning that will justify or refute propositions or conjectures. 6.NS.C.6b Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes. 6.NS.C.8 Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.
3	42	CR	See rubric	Solve multi-step contextual problems with degree of difficulty appropriate to grade 7, requiring application of knowledge and skills articulated in 6.RP.A, 6.EE.C, 6.G. 6.RP.A.2 Understand the concept of a unit rate a/b associated with a ratio a:b with $b \neq 0$, and use rate language in the context of a ratio relationship. For example, "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is $3/4$ cup of flour for each cup of sugar." "We paid \$75 for 15 hamburgers, which is a rate of \$5 per hamburger." 6.RP.A.3 Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations. 6.EE.C.9 Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and time.
3	43	MS	Α, Ε	7.G.A.3 Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.

	#28					
Score	Description					
3	Student response includes the following 3 elements.					
	 Computation component = 1 point 					
	 The student correctly determines the approximate number of people who will receive a small prize. Accept a range from 900 to 1,200 people. 					
	 Modeling component = 2 points 					
	 The student correctly models a valid estimation strategy for determining the number of people who will attend this year's fair. Accept a range of 14,000 to 17,000. 					
	 The student correctly models finding the approximate number of people who will receive a prize. 					
	Sample Student Response					
	I saw that the attendance was increasing each year and found the average amount that it increased by each year. (1,087 + 1,763 + 1,176)/3 = 4,026/3 So I estimate that the attendance this year will increase by about 1,342 people and will be 14,646 people.					
	20% of 14,646 is 0.20(14,468) = 2,929.2					
	1/3 of 2,929.2 is (2,929.2) (1/3) = (2929.2)/3 = 976.4					
	So about 976 people will receive a small prize.					
	Note: Accept other valid estimation strategies for determining this year's attendance.					
2	Student response includes 2 of the 3 elements.					
1	Student response includes 1 of the 3 elements.					
0	Student response is incorrect or irrelevant.					

	#29						
Score	Description						
3	Student response includes the following 3 elements.						
	 Computation component = 1 point 						
	 Correctly calculates how much money was earned on Monday: \$158 						
	• Modeling component = 2 points						
	 Correctly models a process for determining the total number of hours worked 						
	Note: It is not necessary to show the total hours of 9.25 if the two correct subtotals are given.						
	 Correctly models a process for determining the total dollar amount earned, including overtime 						
	Sample Student Response						
	Rita worked from 8:15 a.m. to 12:45 p.m., or $4\frac{1}{2}$ hours before lunch. She worked from 1:30 p.m. to 6:15 p.m., or $4\frac{3}{4}$ hours after lunch. The total time Rita worked on Monday was $4\frac{1}{2} + 4\frac{3}{4} = 9\frac{1}{4}$ hours.						
	Rita worked 1¼ hours beyond 8 hours, so she is paid overtime for that time. Rita is paid \$16 per hour for the first 8 hours she worked and $(\$16)(1\frac{1}{2}) = \24 per hour for the 1¼ overtime hours she worked. The total dollar amount she earned on Monday is \$16 (8) + \$24(1¼) = \$128 + \$30 = \$158.						
	Notes: • The student may receive a total of 2 modeling points if the modeling processes are correct but the student makes one or two computational errors resulting in an incorrect answer.						
	 The student may receive a total of 1 modeling point if the modeling processes are correct but the student makes more than two computational errors resulting in an incorrect answer. 						
2	Student response includes 2 of the 3 elements.						
1	Student response includes 1 of the 3 elements.						
0	Student response is incorrect or irrelevant.						

	#30
Score	Description
3	 Student response includes each of the following 3 elements: Valid statement about the value of x Valid explanation about the statement regarding the value of x Valid example, using numbers, that supports the explanation Sample Student Response: I know that 5 + (-5) = 0. Then, 5 plus any number less than -5 will be negative. So, the value of x must be less than -5 if n is a negative number (x < -5 can be used as the statement). An example that shows this is true is 5 + (-6) = -1, and this works for any number less than -5.
2	Student response includes 2 of the 3 elements.
1	Student response includes 1 of the 3 elements.
0	Student response is incorrect or irrelevant.

	#32 Part A
Score	Description
	Student response includes the following element:
	• Correct explanation of why the graph represents a proportional relationship
1	Sample Student Response:
	The graph represents a proportional relationship between the variables d and t because the ratio of d to t is always the same number.
0	Student response is incorrect or irrelevant.
	#32 Part B
3	 Student response includes the following 3 elements: Correct identification of the relationship of distance and time as proportional for the white car and not proportional for the red car Correct explanation, using the table, of why each relationship is proportional or not proportional Correct explanation of how the graph of each relationship would support the previous answer
	Sample Student Response: The relationship between distance and time is proportional for the white car, but not proportional for the red car. The ratio of miles traveled to hours traveled for the white car is the same for each row (55 miles per hour). The ratio of miles traveled to hours traveled for the red car is not the same for each row (77/1 = 77, and $122/2 = 61$). The graph of the white car relationship would form a straight line that passes through the origin, so this supports my answer that it is a proportional relationship. The graph of the red car relationship would also pass through the origin, but does not form a straight line. This also supports my answer that the red car relationship is not a proportional relationship.
2	Student response includes 2 of the 3 elements.
1	Student response includes 1 of the 3 elements.
0	Student response is incorrect or irrelevant.

	#36				
Score	Description				
3	Student response includes the following 3 elements.				
	 Computation component = 1 point 				
	\circ Correctly determines the value of <i>x</i>				
	• Reasoning component = 2 points				
	 Correctly uses an equation to determine the monthly savings goal 				
	\circ Correctly writes a sentence to explain the solution				
	Sample Student Response				
	$350 = 12(x + 20) 29.1\overline{6} = x + 20 9.1\overline{6} = x $9.17 \approx x$				
	The student has to save an additional \$9.17 per month to reach his goal of saving \$350 in 12 months.				
2	Student response includes 2 of the 3 elements.				
1	Student response includes 1 of the 3 elements.				
0	Student response is incorrect or irrelevant.				

	#41 Part A						
Score	Description						
2	Student response includes the following 2 elements.						
	 Computation component = 1 point 						
	 Correct computation, numerical support, or graphical support that is consistent with the student's reasoning 						
	 Reasoning component = 1 point 						
	 Correctly reasons that the lengths of the sides of the quadrilateral <i>JKLM</i> are not all the same, so it cannot be a square 						
	Sample Student Response:						
	In a square, the lengths of all four sides are the same. If quadrilateral <i>JKLM</i> is a square, all four of its side lengths would be the same. Since the <i>y</i> -coordinates are the same in points <i>J</i> and <i>K</i> , the side length of <i>JK</i> is the positive difference between the <i>x</i> -coordinates of each point. So, $JK = -4.5 - (-1.2) = -4.5 + 1.2 = -3.3 = 3.3$ units. Similarly, the side length of <i>KL</i> is the positive difference between the <i>y</i> - coordinates of each point. So, $KL = 3 - 8.7 = -5.7 = 5.7$ units. The lengths of two sides of the quadrilateral are not equal, so quadrilateral <i>JKLM</i> is not a square.						
1	 Notes: The student may still receive credit for this part if the student chooses to compute or compare side lengths without using absolute values. The student may receive a total of 1 point for Part A if the reasoning processes are correct but the student makes one or more computational errors resulting in incorrect answers or an incorrect conclusion. Student may receive the 1 computation point if the correct answer is computed but shows no work or insufficient work to indicate a correct reasoning process. 						
0	Student response is incorrect or irrelevant.						

	#41 Part B
Score	Description
2	Student response includes the following 2 elements.
	 Computation component = 1 point
	\circ Correct new coordinates for points L and M
	• Reasoning component = 1 point
	 Correctly reasons why the two new coordinates of points L and M would make quadrilateral JKLM a square
	Note: Numerical or graphical support that is consistent with the student's reasoning is acceptable for full credit.
	Sample Student Response:
	The given coordinates form a rectangle with sides <i>JK</i> and <i>LM</i> both 3.3 units and sides <i>KL</i> and <i>JM</i> both 5.7 units. If the coordinates of points <i>L</i> and <i>M</i> change so that quadrilateral <i>JKLM</i> is a square, they should be lowered on the coordinate plane $5.7 - 3.3$, or 2.4 units. This will change sides <i>KL</i> and <i>JM</i> from 5.7 units to 3.3 units, making the resulting quadrilateral a square. Lowering points on a coordinate plane changes their <i>y</i> -coordinates. So, the new coordinates of point <i>L</i> would be (-1.2, 6.3) since 8.7 – 2.4, or 6.3. The new coordinates of point <i>M</i> would be (-4.5, 6.3) since 8.7 – 2.4, or 6.3 units.
1	 Notes: The student should receive credit for this part if the student chooses new coordinates for points <i>L</i> and <i>M</i> that are below points <i>J</i> and <i>K</i>, as long as the student shows or explains that the side lengths of all four sides are the same length. The student may receive a total of 1 point for Part B if the reasoning processes are correct but the student makes one or more computational errors resulting in incorrect answers or an incorrect conclusion. The student may receive the 1 computation point if the correct answer is computed but shows no work or insufficient work to indicate a correct reasoning process. Student response includes 1 of the 2 elements.
0	Student response is incorrect or irrelevant.

#42 Part A					
Score	Description				
	Student response includes each of the following 3 elements:				
	 Explanation of how to find the amount of money received for any number of work-related miles driven Correct amount of money received for each work-related mile driven, \$0.51 Correct equation based on the explanation given 				
5	Sample Student Response:				
	Since the table shows a proportional relationship, I can divide the amount of money received by the distance driven for any of the rows in the table. The worker receives \$0.51 for each work-related mile driven. The equation that represents this is $y = 0.51x$ (or equivalent).				
2	Student response includes 2 of the 3 elements.				
1	Student response includes 1 of the 3 elements.				
0	Student response is incorrect or irrelevant.				
	#42 Part B				
	Student response includes each of the following 3 elements:				
3	 Correct number of work-related miles driven, 63 Correct percent of total miles driven: 47% (or correct calculation based on incorrect number of work-related miles driven) Correct explanation given or work shown 				
	Sample Student Response:				
	The percent of total miles is found by dividing the work-related miles driven by the total number of miles driven. So, I must first determine the total number of miles that were work-related. I can use my equation from Part A to find the answer. 32, 13 = 0.51x				
	$x = \frac{32.13}{0.51} = 63$				
	$\frac{1}{134} \times 100 \approx 47\%$				
2	Student response includes 2 of the 3 elements.				
	Student response includes 1 of the 3 elements.				
U	Student response is incorrect or irrelevant.				

Technology Enhanced Item Images/Keys #4

Before Response

Lara charges \$12 per hour for babysitting.

Write **two different** equations to model Lara's total fee, *f*, after babysitting for *h* hours.

Select and drag each correct number or symbol into the boxes to write two different equations.



Correct Response

Lara charges \$12 per hour for babysitting. Write two different equations to model Lara's total fee, *f*, after babysitting for *h* hours. Select and drag each correct number or symbol into the boxes to write two different equations. $f \quad f \quad f = 12 \quad \bullet \quad h \quad h \quad h = \frac{1}{12} \quad \bullet \quad f \quad h \quad h = \frac{1}{12} \quad \bullet \quad f \quad h \quad h = \frac{1}{12} \quad \bullet \quad f \quad h \quad h = \frac{1}{12} \quad \bullet \quad f \quad h \quad h = \frac{1}{12} \quad \bullet \quad f \quad h \quad h = \frac{1}{12} \quad \bullet \quad f \quad h \quad h = \frac{1}{12} \quad \bullet \quad f \quad h \quad h = \frac{1}{12} \quad \bullet \quad f \quad h \quad h = \frac{1}{12} \quad \bullet \quad f \quad$

Technology Enhanced Item Images/Keys #13

Before Response

Which expressions are equivalent to 2.5 - 4(1.5 - 10) + 3?

In the table, select whether the new expressions are Equivalent or are Not Equivalent to the given expression.

?						
	Equivalent	Not Equivalent				
2.5 + 4(⁻ 1.5 + 10) + 3						
2.5 – 4 (10 – 1.5) + 3						
⁻ 4(1.5 – 10) + 3 + 2.5						
2.5 - 4 + 3(1.5 - 10)						
3 + 2.5 - 4(1.5 - 10)						
4 - 2.5(1.5 - 10) + 3						

Correct Response

Which expressions are equivalent to 2.5 - 4(1.5 - 10) + 3?

In the table, select whether the new expressions are Equivalent or are Not Equivalent to the given expression.

Equivalent Not Equivale $2.5 + 4(^{-}1.5 + 10) + 3$ \checkmark \checkmark $2.5 - 4(10 - 1.5) + 3$ \checkmark \checkmark $-4(1.5 - 10) + 3 + 2.5$ \checkmark \checkmark $2.5 - 4 + 3(1.5 - 10)$ \checkmark \checkmark	?						
$2.5 + 4(-1.5 + 10) + 3$ \checkmark $2.5 - 4(10 - 1.5) + 3$ \checkmark $-4(1.5 - 10) + 3 + 2.5$ \checkmark $2.5 - 4 + 3(1.5 - 10)$ \checkmark	nt						
$2.5 - 4 (10 - 1.5) + 3$ \checkmark $-4(1.5 - 10) + 3 + 2.5$ \checkmark $2.5 - 4 + 3(1.5 - 10)$ \checkmark							
-4(1.5 - 10) + 3 + 2.5 $2.5 - 4 + 3(1.5 - 10)$							
2.5 - 4 + 3(1.5 - 10)							
3 + 2.5 - 4(1.5 - 10)							
4 - 2.5(1.5 - 10) + 3							

Technology Enhanced Item Images/Keys #25

Before Response

Jeremy runs a shop that rents standard tuxedos. The total cost to rent different numbers of tuxedos is given in the table below.						
Standard Tuxedo Rental						
Number of Tuxedos Total Cost						
2 \$130						
4 \$260						
	6	\$390				
Choose a correct answer from each drop-down menu to correctly complete each statement.						
The ratio of total cost to number of tuxedos is v per tuxedo.						
The of the total costs in consecutive rows is constant.						
All the points on the graph lie on a straight line that passes through the point						

Correct Response

Jeremy runs a shop that rents standard tuxedos. The total cost to rent different numbers of tuxedos is given in the table below.

	Standard Tuxedo Rental Number of Tuxedos Total Cost		
	2	\$130	
	4	\$260	
	6	\$390	
Choose a correct answer from each drop-down menu The ratio of total cost to number of tuxedos is 65	u to correctly com	plete each stat	
The difference • of the total costs in consecutive	rows is constant		
All the points on the graph lie on a straight line that pa	asses through the	e point (0, 0)	



Assessment Reference Sheet

Grade 7

1 inch = 2.54 centimeters 1 meter = 39.37 inches 1 mile = 5280 feet 1 mile = 1760 yards 1 mile = 1.609 kilometers 1 kilometer = 0.62 mile 1 pound = 16 ounces 1 pound = 0.454 kilogram 1 kilogram = 2.2 pounds 1 ton = 2000 pounds 1 cup = 8 fluid ounces 1 pint = 2 cups 1 quart = 2 pints 1 gallon = 4 quarts 1 gallon = 3.785 liters 1 liter = 0.264 gallon 1 liter = 1000 cubic centimeters

Triangle	$A = \frac{1}{2}bh$
Parallelogram	A = bh
Circle	$A = \pi r^2$
Circle	$C = \pi d$ or $C = 2\pi r$
General Prisms	V = Bh