

Item Number	Answer Key	Evidence Statement Key																				
1.	B, E	8.EE.1																				
2.	$\frac{4}{3}$ or equivalent	8.EE.2																				
3.	13	8.EE.7b																				
4.	B	8.EE8a																				
5.	C	8.EE.8b-1																				
6.	<table border="1"> <thead> <tr> <th>System of Equations</th> <th>No Solution</th> <th>One Solution</th> <th>Infinitely Many Solutions</th> </tr> </thead> <tbody> <tr> <td>$y = 3x + 1$ $y = 3x + 5$</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>$y = 2x + 2$ $y = -2x + 4$</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>$3x + 2y = 2$ $3x + 2y = 5$</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>$x - 2y = 1$ $2x - 4y = 2$</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> </tbody> </table>	System of Equations	No Solution	One Solution	Infinitely Many Solutions	$y = 3x + 1$ $y = 3x + 5$	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	$y = 2x + 2$ $y = -2x + 4$	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	$3x + 2y = 2$ $3x + 2y = 5$	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	$x - 2y = 1$ $2x - 4y = 2$	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	8.EE.8b-3
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7.	-1, 0, 2 or 3	8.F.1-1																				
8.	It <input type="text" value="does represent a function"/> because <input type="text" value="each input has only one output"/> .	8.F.1-2																				
9.	A	8.F.3-2																				

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11.	A	8.G.1c																		
12.	B	8.SP.2																		
13.	C	8.EE.4-2																		
14.	C	8.EE.5-1																		
15.	<table border="1"> <thead> <tr> <th>Least</th> <th>Greatest</th> </tr> </thead> <tbody> <tr> <td>Store C</td> <td>Store B</td> </tr> <tr> <td></td> <td>Store A</td> </tr> </tbody> </table>	Least	Greatest	Store C	Store B		Store A	8.EE.5-2												
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16.	<p>The average rate of change of function P is <input type="text" value="greater than"/> the average rate of change of function Q.</p> <p>The y-intercept of function P is <input type="text" value="greater than"/> the y-intercept of function Q.</p>	8.F.2																		
17.	14.764 or 14.765	8.G.7-2																		
18.	<p>Part A:</p> <p>The transformation is a <input type="text" value="reflection"/> <input type="text" value="across the line"/>.</p> <p>$\triangle PQR$ is <input type="text" value="congruent"/> to the image $\triangle P'Q'R'$.</p> <p>Part B: C</p>	8.G.2																		
19.	<p>Part A:</p> <p>Figure 1 can be transformed into Figure 2 by a <input type="text" value="Choose..."/> followed by a <input type="text" value="Choose..."/>.</p> <p><input type="text" value="translation 1 unit down"/> <input type="text" value="reflection across the x-axis"/> <input type="text" value="reflection across the y-axis"/> <input type="text" value="dilation centered at the origin with a scale factor of 2"/> <input type="text" value="translation 4 units down"/> <input type="text" value="reflection across the y-axis"/> <input type="text" value="rotation 90° clockwise about the origin"/> <input type="text" value="dilation centered at the origin with a scale factor of 1/2"/></p> <p>Part B: D</p>	8.G.4																		
20.	<p>Part A: C</p> <p>Part B: D</p> <p>Part C: 150</p> <p>Part D: 281.25</p>	8.EE.8c																		
21.	<p>Part A: D</p> <p>Part B: 13</p>	8.EE.C.Int.1																		

22.	Part A: 1.50 Part B: C	8.F.4
23.	Part A: 38 or 39 Part B: 4.41	8.G.9
24.	Part A: 66 Part B: 3.5 Part C: 38 Part D: 3	8.SP.3
25.	Part A: The slope of segment AB is <input type="text" value="equal to"/> the slope of segment BC . Part B: See Rubric Part C: See Rubric	8.C.5-1
26.	Part A: See Rubric Part B: See Rubric	8.C.6
27.	See Rubric	8.D.1
28.	See Rubric	8.D.3

#25 Rubric Part A (Machine Scored)

Score	Description
1	Student response includes the following element. <ul style="list-style-type: none">• Computation component = 1 point<ul style="list-style-type: none">○ The student provides a response that indicates the slope of \overline{AB} is equal to the slope of \overline{BC}.
0	Student response is incorrect or irrelevant.

#25 Rubric Part B

Score	Description
1	Student response includes the following element. <ul style="list-style-type: none">• Reasoning component = 1 point<ul style="list-style-type: none">○ The student correctly reasons that $\frac{BE}{EA} = \frac{CD}{DB}$, so both \overline{AB} and \overline{BC} have the same slope. <p>Sample Student Response:</p> <p>"The ratio $\frac{BE}{EA} = \frac{8}{12} = \frac{2}{3}$. The ratio $\frac{CD}{DB} = \frac{4}{6} = \frac{2}{3}$. Since the ratio of the sides of each triangle is $\frac{2}{3}$, the ratios are equal, so $\frac{BE}{EA} = \frac{CD}{DB}$. This means that both segments have the same slope."</p>
0	Student response is incorrect or irrelevant.

#25 Rubric Part C

Score	Description
2	Student response includes the following 2 elements. <ul style="list-style-type: none">• Computation component = 1 point<ul style="list-style-type: none">○ The student determines a correct equation for line t of$y = \frac{2}{3}x + 1$• Reasoning component = 1 point<ul style="list-style-type: none">○ The student shows or explains that line t has a slope of $\frac{2}{3}$ and a y-intercept of 1.

	<p>Sample Student Response:</p> <p>“To find the slope of line t, I can take any two points on the line and find the ratio of the rise to the run. Using points A and B, I found the slope to be $\frac{3 - (-5)}{3 - (-9)} = \frac{8}{12} = \frac{2}{3}$. Then I identified the y-intercept of line t by looking at its graph. The line crosses the y-axis at $y=1$, so the y-intercept is 1. Therefore, the equation of line t is $y = \frac{2}{3}x + 1$.”</p> <p>Notes:</p> <ul style="list-style-type: none"> • The student may receive a combined total of 2 points if the reasoning processes are correct but the student makes one or more computational errors resulting in incorrect answers. • The student may receive a total of 2 points if he or she computes the correct answers but shows no explanation or insufficient explanation to indicate a correct reasoning. • The student cannot receive more than 1 point for reasoning if the explanations, while sufficient to indicate that the student had correct reasoning, contain nonsense statements.
1	Student response includes 1 of the above elements.
0	Student response is incorrect or irrelevant.

#26 Rubric Part A	
Score	Description
2	<p>Student response includes each of the following 2 elements.</p> <ul style="list-style-type: none"> • Reasoning component = 1 point <ul style="list-style-type: none"> ○ The student provides all possible conditions for j and k under which $-2jk$ is negative. • Reasoning component = 1 point <ul style="list-style-type: none"> ○ The student provides a justification for his or her response. <p>Sample Student Response:</p> <p>The rational numbers j and k must both be positive or both be negative. In other words, they must have the same sign.</p> <p>The expression $-2jk$ is the product of the three rational numbers -2, j, and k. For the product of three rational numbers to be negative, exactly one of the numbers must be negative or all three of the numbers must be negative.</p>

	<p>This is because there must be an odd quantity of negative numbers in a product for the product itself to be negative. Since -2 is negative, one of the following must be true: j and k are both positive, so that only one of the three numbers -2, j, and k is negative, or j and k are both negative, so that all three of the numbers are negative. Therefore, j and k must have the same sign.</p> <p>or other valid response</p>
1	<p>Student response includes 1 of the above elements.</p> <p>OR</p> <p>Student response states one condition and provides a concrete example to justify the condition.</p>
0	Student response is incorrect or irrelevant.
#26 Rubric Part B	
Score	Description
2	<p>Student response includes each of the following 2 elements.</p> <ul style="list-style-type: none"> • Reasoning component = 1 point <ul style="list-style-type: none"> ◦ The student provides the conditions for $(m + p)$ under which the sum $-2 + (m + p)$ is negative. • Reasoning component = 1 point <ul style="list-style-type: none"> ◦ The student provides a justification for his or her response. <p>Sample Student Response:</p> <p>In order for $-2 + (m + p)$ to be negative, the rational numbers m and p must satisfy the inequality $(m + p) < 2$. In other words, their sum must be less than 2.</p> <p>The sum $-2 + (m + p)$ can be considered the sum of -2 and the number $(m + p)$. Since 0 is 2 units to the right of -2, when any value greater than or equal to 2 is added to -2, the sum will not be negative. Therefore, in order for $-2 + (m + p)$ to be negative, the value of $(m + p)$ must be less than 2, which is the same as $(m + p) < 2$.</p> <p>or other valid response</p>
1	Student response includes 1 of the above elements.
0	Student response is incorrect or irrelevant.

#27 Rubric

Score	Description
3	<p>Student response includes each of the following 3 elements.</p> <ul style="list-style-type: none">• Computation component = 1 point<ul style="list-style-type: none">○ The student indicates that the new machine prints for 64 minutes.• Modeling component = 1 point<ul style="list-style-type: none">○ The student provides a correct process to determine unit rates for each machine.• Modeling component = 1 point<ul style="list-style-type: none">○ The student provides a correct process to determine the number of minutes the new machine prints. <p>Sample Student Response:</p> <p>“From the graph, the new machine prints 75 booklets in 6 minutes. This means that the new machine prints booklets at a rate of $75/6 = 12.5$ booklets per minute. From the equation, the old machine prints booklets at a rate of 9 booklets per minute.”</p> <p>“Let x represent the number of minutes the old machine prints booklets. Then $x + 14$ minutes, the new machine prints a total of $12.5(x + 14)$ booklets.</p> <p>Since 1,250 booklets are printed, the equation $1,250 = 12.5(x + 14) + 9x$ represents this situation. The equation can be solved to determine x, the number of minutes the old machine prints.</p> $1,250 = 12.5(x + 14) + 9x$ $1,250 = 12.5x + 175 + 9x$ $1,075 = 21.5x$ $50 = x$ <p>So, the old machine prints for 50 minutes. Since the new machine prints for 14 minutes more than the old machine, the new machine prints for $50 + 14 = 64$ minutes.”</p> <p>Notes:</p> <ul style="list-style-type: none">• The student may show the equations without the verbal description. If equations are shown that represent valid modeling for the situation, credit should be awarded.

	<ul style="list-style-type: none"> The student may receive a combined total of 2 points if the modeling processes are correct but he or she makes one or more computational errors resulting in an incorrect answer. The student may receive a total of 1 point if he or she computes the correct answer but shows no work or insufficient work to indicate a correct modeling process. <p>The student may receive 1 point for modeling part 1 if the unit rates for each machine are not explicitly stated but are used correctly to determine the number of minutes either machine prints.</p>
2	Student response includes 2 of the above elements.
1	Student response includes 1 of the above elements.
0	Student response is incorrect or irrelevant.

#28 Rubric

Score	Description
3	<p>Student response includes each of the following 3 elements.</p> <ul style="list-style-type: none"> Modeling component = 1 point <ul style="list-style-type: none"> The student writes a correct equation of the line using a reasonable constant of proportionality. Computation component = 1 point <ul style="list-style-type: none"> The student provides the correct prediction of loaves that can be made using his or her equation. Modeling component = 1 point <ul style="list-style-type: none"> The student provides a valid explanation or work. <p>Sample Student Response:</p> <p>The slope of the line would be the constant of proportionality for the line shown. The point (35, 49) is really close to the line which would make the constant of proportionality $\frac{49}{35} = \frac{7}{5}$. The equation of the line would be $y = \frac{7}{5}x$. The number of loaves of bread from 85 pounds of flour would be $\frac{7}{5}(85) = 119$ loaves.</p> <p>(Student could use one of the other points that is close to the line or use the slope formula to find the slope, m. The prediction can then be taken from the equation written.) A correct linear equation in any form is acceptable.</p>

2	Student response includes 2 of the above elements.
1	Student response includes 1 of the above elements.
0	Student response is incorrect or irrelevant.