The following pages include the answer key for all machine-scored items, followed by a sample response for the hand-scored item.

- The rubrics show sample student responses. Student responses other than that shown in the rubric may earn full or partial credit.

- Which responses to hand-scored items receive full or partial credit will be confirmed during range-finding (reviewing sets of real student work)

- If students make a computation error, they can still earn points for reasoning or modeling.

Item Number	Answer Key
1.	Student response is (1/15)
2.	DD1: the total change in height, in feet DD2: down DD3: 15 steps
3.	A
4.	Student response is 1/2.
5.	C
6.	Student response is 84
7.	B,C,E
8.	Part A: B,C,D Part B: C
9.	Student response is 9 in gap1 and 0.75 in gap2.
10.	See Rubric
11.	C,D,E
12.	See Rubric
13.	Part A: A,B,D Part B: Student response is: row 1, "no triangle" ; row 2, "one unique triangle"
14.	A
15.	Student response is Circle Q in bay1, Circle P in bay2, and Circle R in bay3
16.	See Rubric

Rubrics

#10 Rubric

Analytic Rubric	
Score	**Description**
3	Student response includes each of the following 3 elements: • Reasoning component = 1 point: Valid explanation or work showing why the student's statement is incorrect. • Computation component = 1 point: Valid example of a fraction with a decimal form that repeats. • Reasoning component = 1 point: Valid explanation or work showing how to determine if the decimal form of a fraction will repeat or terminate. **Sample Student Response:** The student's statement can be correct for some fractions, but it is not correct for all fractions. Although writing an equivalent fraction with a numerator that is an integer and a denominator of 100 worked for this fraction, it will not work for all fractions that have terminating decimal forms. The fraction $\frac{7}{8}$, for example, has a terminating decimal form (0.875), but you cannot set it equal to a fraction with a numerator that is an integer and a denominator of 100. You would need a denominator of 1,000. An example of a fraction with a decimal form that repeats is $\frac{1}{3}$. To determine if a decimal form of a fraction will repeat or terminate, you can try to find an equivalent fraction with an integer numerator and a denominator that is a power of 10. If there is no such equivalent fraction, the equivalent decimal is not terminating. Or other valid response.
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.

#12 Rubric
Analytic Rubric Part A

Score	Description
3	Student response includes each of the following 3 elements: • **Modeling component** = 1 point: Valid equation that represents the amount of clay, c, in pounds, that the student uses to make b bowls, $c = 5b$ • **Computation component** = 1 point: Correct value for the amount of clay the student used to make 6 bowls, 30 pounds • **Modeling component** = 1 point: Valid work or explanation for how to determine the amount of clay the student used to make 6 bowls Sample Student Response: The professional potter uses $\frac{8}{2} = 4$ pounds of clay per bowl. The student uses 25% more clay than the pottery teacher, so the student needs $4(1 + 0.25) = 4(1.25) = 5$ pounds of clay per bowl. An equation that represents the amount of clay, c, in pounds, that the student uses to make b bowls is $c = 5b$. To make 6 bowls, the student needs $c = 5(6) = 30$ pounds of clay. Or other valid response.
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.

Analytic Rubric Part B	
Score	**Description**
3	Student response includes each of the following 3 elements: • **Modeling component** = 1 point: Valid expression to model the smallest possible volume of the box, $(10)(10)(5)$ • **Computation component** = 1 point: Correct value for the smallest possible volume of the box, 500 cubic inches • **Modeling component** = 1 point: Valid work or explanation for how to determine the smallest possible volume of the box Sample Student Response: The gift boxes need to have square bases. Since the bowl is 10 inches wide, the base of the box should have side lengths that are each 10 inches wide. The height of the box will be the same as the height of the bowl. An expression to model the smallest possible volume of the box is $(10)(10)(5)$. $V = lwh$ $(10)(10)(5)$ $(100)(5)$ 500 The volume of the smallest possible box is 500 cubic inches. Note: If a student adjusts the side lengths to fit the bowl, they can still earn full credit. Or other valid response.
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.

#16 Rubric

Analytic Rubric	
Score	**Description**
3	Student response includes each of the following 3 elements: • **Reasoning component** = 1 point: Valid explanation for how the graph shows that the relationship is proportional • **Computation component** = 1 point: Correct value for the increase in y, $\frac{1}{2}$ • **Reasoning component** = 1 point: Valid explanation for the use of the graph to determine the constant of proportionality Sample Student Response: I know that the relationship between x and y is proportional because the graph shows a straight line that includes the origin. As x increases by 1, y increases by $\frac{1}{2}$. To find how much y increases by as x increases by 1, I can find the constant of proportionality. The graph shows a point at $(40, 20)$. This means that the ratio of y to x is $\frac{20}{40}$ or $\frac{1}{2}$, so as x increases by 1, y increases by $\frac{1}{2}$. The graph will pass through the point $\left(1, \frac{1}{2}\right)$. Or other valid response. Or a valid and accurate representation using the drawing tool will be considered correct. Student's answer may appear in the drawing box or in the text box or in any combination of the two.
2	Student response includes 2 of the above elements.
1	Student response includes 1 of the above elements.
0	The response is incorrect or irrelevant.