Released Items Answer and Alignment Document

Mathematics – Algebra I

2019

Item Number	Entity ID	Answer Key	Evidence Statement Key
1.	VH031549	D	F-LE.2-1
2.	M40433	C	A-SSE.1-2
3.	VH225229	$h = \boxed{\sqrt{\frac{V}{2l}}}$	A-CED.4-2
4.	VH026435	Part A: B Part B: B	F-BF.3-4
5.	VH018490	Part A: 40 Part B: B Part C: B Part D: D, E	HS-Int.3-1
6.	VH150250	Part A: See Rubric Part B: See Rubric	HS-D.3-3a
7.	VH068614	7/12 or equivalent	S-ID.5
8.	VH018281	D	A-REI.10
9.	VH210488	Part A: A Part B: $f(\boxed{0}) = \boxed{88}$ or equivalent solutions	F-IF.2
10.	VH018061	B	F-IF.A.Int.1
11.	VH011918	B	A-APR.1-1
12.	VH223193	Graph of the solution set $x < 1$ on the number line	A-REI.3
13.	VH231478	A	F-IF.5-2
14.	VH024229	Part A: A, E Part B: D, F	F-IF.4-1
15.	M40002	B	F-IF.6-1a
16.	VF884598	Part A: See Rubric Part B: See Rubric	HS-C.9.1
17.	VH018306	C	F-LE.2-1

#6 VH150250 Rubric Part A	
Score	**Description**
1	Student response includes the following element. • **Modeling component** = 1 point ○ An equation is constructed to describe the situation Sample Student Response: Let *D* represent the total number of students in a district and let *V* represent the number of visitors expected from that district. Then ***V* = 1/13 x 0.10 x *D***. Note: An alternate acceptable equation **is *V* = 0.10 x *D*** where *D* represents the students invited (10th grade). Or other valid response.
0	Student response is incorrect or irrelevant.

#6 VH150250 Rubric Part B	
Score	**Description**
2	Student response includes the following 2 elements. • **Computation component** = 1 point o Valid estimate and work based on the constructed equation Sample Student Response: The total number of students from the chart is 168,303. If I evaluate my equation for ***D*** = **168,303**, I get a value of 1294.64. ***V*** **= (9,022 + 75,481 + 83,800)/13 x 0.10**, which is about 1,295 visitors. • **Reasoning component** = 1 point o The assumptions used when writing the equation are explained Sample Student Response: Since the given value is the total number of students in a district and the visitors are tenth-grade students, the total number of students should be divided by the number of grades, which is 13. This assumes that there are an equal number of students in each grade. Or other valid response.
1	Student response includes 1 of the 2 elements.
0	Student response is incorrect or irrelevant.

#16 VF884598 Rubric Part A	
Score	**Description**
1	Student response includes the following element. • **Reasoning component** = 1 point ○ The student shows that $g(x)$ and $h(x)$ are different functions Sample Student Response: Student shows the functions are different, such as: $g(x) = (x + k)^2 = x^2 + 2kx + k^2$ $h(x) = x^2 + k$ $g(x) \neq h(x)$ Or other valid response.
0	Student response is incorrect or irrelevant.

#16 VF884598 Rubric Part B	
Score	**Description**

2	Student response includes the following 2 elements.
	• **Reasoning component** = 1 point
	  ○ Valid explanation that $g(x)$ is $f(x)$ shifted to the right or left by $\|k\|$ units
	Note: For this element, the student can also receive credit for noting that the vertex of $g(x)$ will always be on the x-axis; if an appropriate parabola representing $g(x)$ is correctly graphed; or if they provide a mathematically-valid explanation of how $g(x)$ will appear that is different from the way $h(x)$ will appear.
	• **Reasoning component** = 1 point
	  ○ Valid explanation that $h(x)$ is $f(x)$ shifted up or down by $\|k\|$ units
	Note: For this element, the student can also receive credit for noting that the parabola of $h(x)$ will be symmetrical about the y-axis; if an appropriate parabola representing $h(x)$ is correctly graphed; or if they provide a mathematically-valid explanation of how $h(x)$ will appear that is different from the way $g(x)$ will appear.
	It is not necessary for the student to mention $f(x)$ in Part B in order to receive credit.
	Or other valid responses.

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