Released Test Answer and Alignment Document

Mathematics – Algebra I

Spring 2017

Item Number	Answer Key	Evidence Statement Key
1.	B	A-REI.12
2.	D	A-CED.4-1
3.	vertical line $x = 2$ horizontal line $y = 2$ line containing the origin $x + y = 0$	A-REI.10
4.	C, D	F-IF.A.Int.1
5.	Part A: B Part B: 36.50	A-REI.6-1
6.	C	A-SSE.1-1
7.	Part A: C Part B: Student response is 3 loaves of zucchini bread and 3 loaves of banana bread. Equivalent numbers can be accepted for both responses. Part C: D Part D: 40	A-CED.3-1
8.	A, E	A-SSE.3b
9.	(-2,3) and (4,15)	A-REI.11-1a
10.	See Rubric	HS-C.16.2
11.	a=3 and b=2	F-BF.3-1
12.	B, G	F-IF.1
13.	Part A:  Part B: 	F-IF.4-1
14.	-0.1	F-IF.6-1a
15.	$h(x) = 2(1.3)^x$ or equivalent expression	F-LE.2-1

16.	Part A: 12+2.2*N* Part B: C	F-Int.1-1
17.	Part A: $H = ($ -2 $)(d-1)(d-$ 5 $)$ The largest value of d for which $H = 0$ is 5. This value is the Part B: distance from the left end of the wall to point C .	F-IF.8a

#10 Rubric	
Score	**Description**

3	Student response includes the following 3 elements.
	• **Reasoning component** = 2 points
	  ○ Two valid methods for solving the quadratic equation (at least one method must be algebraic).
	• **Computation component** = 1 point
	  ○ Correct solution of $x = 3$.
	
	Sample Student Response:
	
	One method could be factoring:
	$2x^2 + 18 = 12x$
	$2x^2 - 12x + 18 = 0$
	$(2x - 6)(x - 3) = 0$
	$2(x - 3)(x - 3) = 0$
	$x - 3 = 0$
	$x = 3$
	
	A second method could be graphing the equation.
	If I change the equation into a system: $\begin{matrix} y_1 = 2x^2 + 18 \\ y_2 = 12x \end{matrix}$, I can graph this on my calculator. These two equations intersect at (3, 36), so the equation has a solution at $x = 3$.
	
	Note:
	• The student earns 1 reasoning point for each of the two methods used to solve the equation.

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.