Released Test Answer and Alignment Document

Mathematics – Grade 5

Spring 2018

Item Number	Answer Key	Evidence Statement Key
1.	A	5.OA.3
2.	C	5.NF.1-1
3.	B	5.NBT.1
4.	See Rubric	5.C.2-1
5.	$\frac{19}{6}$ or $3\frac{1}{6}$ or equivalent	5.NF.6-2
6.	$\frac{13}{12}$ or equivalent	5.NF.2-1
7.	Part A: 18,480 Part B: 10,560	5.Int.2
8.	B, E	5.G.4
9.	Part A: $\frac{1}{4}$ (or any equivalent fraction) Part B: $\frac{13}{15}$ or equivalent fraction	5.NF.2-1
10.	2.439 < 2.564 2.532 > 2.435 OR 2.439 > 2.435 2.532 < 2.564 OR 2.439 < 2.564 2.532 < 2.564 OR	5.NBT.3b

	2.439 > 2.435 2.532 > 2.435	
11.	Part A: 2, 3, and 4 in any order Part B: 72	5.MD.5c
12.	D	5.NF.3-1
13.	C	5.NF.4a-1
14.	1,820	5.NBT.5
15.	See Rubric	5.D.1
16.	Part A: 320,000 Part B: B	5.NBT.Int.1
17.	2 ——— 15	5.NF.1-1
18.	Part A: B, C, E Part B: See rubric	5.NF.1-1
19.	8.75	5.NBT.7-3
20.	16	5.NF.7c
21.	529	5.NBT.6
22.	D	5.NF.4a-2
23.	6,840	5.MD.5b
24.	Part A: B Part B: See Rubric	5.C.5-1
25.	D	5.NF.6-1
26.	A, B, E	5.G.3
27.	C, F	5.NBT.3a
28.	Part A: B, D, F Part B: A	5.MD.1-2

#4 Rubric VH084810	
Score	**Description**

3	Student response includes the following 3 elements.
	
	• **Reasoning component** = 2 points
	  ○ Valid multiplication equation to represent the problem
	  ○ Valid explanation of how to use another operation other than multiplication to find the value of *w*
	
	• **Computation component** = 1 point
	  ○ Correct value of *w*, 65 feet
	
	Sample Student Response:
	
	95 x *w* = 6175
	
	Since multiplication is the inverse of division, division can be used to find the missing factor. The value of *w* can be found by dividing 6175 by 95.
	
	Notes:
	• A variety of equations and explanations are possible.
	• If a computation mistake is made, credit cannot be given for computation but credit can be given for a valid 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.

#15 Rubric VH141466	
Score	**Description**

3	Student response includes the following 3 elements.
	
	• **Modeling component** = 2 points
	  ○ Valid explanation of how to find the area of the two signs
	  ○ Valid explanation of how to find the total amount of time it takes Roberto to decorate both signs
	
	• **Computation component** = 1 point
	  ○ Correct total amount of time, in hours, to decorate both signs, $\frac{12}{48}$ hour or equivalent
	
	Sample Student Response:

	To find the area of the two signs, you need to multiply the length times the width for each sign; $\frac{2}{3} \times \frac{1}{4} = \frac{2}{12}$ and $\frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$. To find the total amount of time it takes Roberto to decorate both signs, you need to add the areas of the signs together and then multiply by $\frac{3}{4}$; $\frac{4}{12} \times \frac{3}{4} = \frac{12}{48}$. Notes: • A variety of explanations are possible. • If a computation mistake is made, credit cannot be given for computation but can be given for a valid explanation.
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.

#18 Rubric Part A 4054-M03251	
Score	**Description**
1	**This part of the item is machine-scored.** • **Reasoning component** = 1 point Sample Student Response: • B, C, E
0	Student response is incorrect or irrelevant.
#18 Rubric Part B 4054-M03251	
Score	**Description**
3	Student response includes the following 3 elements. • **Reasoning component** = 2 points ○ Valid explanation of how the value of each letter was determined ○ Valid explanation of how to find the quotient using the area model • **Computation component** = 1 point ○ Correct number for each letter in the model Sample Student Response:

	The value of *Q* is 150 since 10 x 15 = 150. Then, from within the area model, 3000 + 150 + 45 = 3195 The value of *S* is 3 since 15 x 3 = 45. So, 200 + 10 + 3 = 213 And 15 x 213 = 3195 Since division undoes multiplication, 3195 ÷ 15 = 213. 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.

#24 Rubric Part A M500200	
Score	**Description**
1	**This part of the item is machine-scored.** • **Reasoning component** = 1 point Sample Student Response: • Option B – student makes $\frac{12}{15}$ quarts of purple paint
0	Student response is incorrect or irrelevant.

#24 Rubric Part B M500200	
Score	**Description**
2	Student response includes the following 2 elements. • **Reasoning component** = 1 point ○ Valid explanation of how a number line could be used to find the answer • **Computation component** = 1 point ○ Correct fraction of yellow paint remaining, $\frac{1}{6}$ or equivalent Sample Student Response:

	$\frac{4}{6} - \frac{3}{6} = \frac{1}{6}$ quart remaining yellow paint Make a number line from 0 to 1. Divide the number line into 6 equal parts. Then start on the 4^{th} part and move to the left 3 parts to get the answer of $\frac{1}{6}$. Or other valid response.
1	Student response includes 1 of the 2 elements.
0	Student response is incorrect or irrelevant.