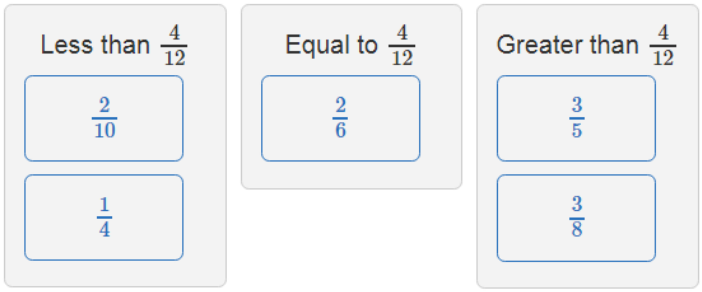
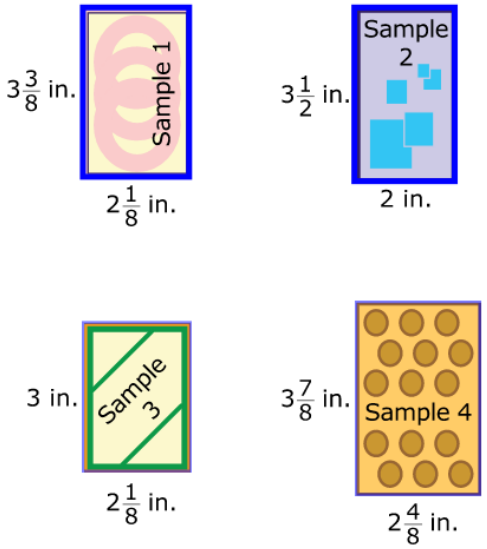
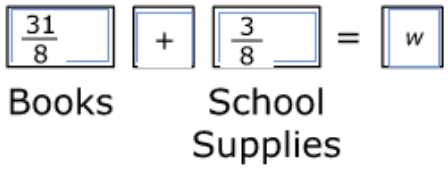
Released Test Answer and Alignment Document

Mathematics – Grade 4

Spring 2017

Item Number	Answer Key	Evidence Statement Key
1.	B	4.MD.4-2
2.	D	4.NBT.5-1
3.	A, B, C, E	4.OA.4-2
4.	$\frac{1}{1}$ or equivalent	4.NF.1-2
5.	See Rubric	4.C.5-1
6.	D, E	4.NBT.Int.1
7.	Part A: C Part B: C	4.NF.3d
8.	B	4.NF.4b-2
9.	**Step 1.** (300 ÷ 6) + (180 ÷ 6) + (12 ÷ 6) **Step 2.** 50 + 30 + 2 **Quotient.** 82	4.NBT.6-1
10.	D	4.NBT.1
11.	See Rubric	4.D.1
12.	6927	4.NBT.4-2
13.	9	4.NF.4c
14.	Part A: B	4.NF.A.Int.1

	Part B: 	
15.	B, F	4.NF.3b-1
16.	B	4.MD.6
17.	Part A:  Part B: 3	4.Int.6
18.	A, D, F	4.NF.7
19.	C	4.OA.2
20.	Part A: $1 \times 6 = 6$ $10 \times 6 =$ 60 $100 \times 6 =$ 600 $1{,}000 \times 6 =$ 6000 Part B: 600,000	4.NBT.Int.1
21.	C	4.OA.1-2

22.	Part A: See Rubric Part B: See Rubric	4.C.4-5
23.	D	4.NBT.4-1
24.	Part A: 57 Part B: 61	4.MD.7
25.	319	4.OA.3-1
26.	Part A: See Rubric Part B: See Rubric	4.C.5-6
27.	B	4.MD.5
28.	See Rubric	4.C.2
29.	48	4.MD.2-1
30.	C	4.Int.4
31.	B, E	4.OA.1-1
32.	Part A:  Part B: $\frac{34}{8}$ or equivalent fraction	4.NF.Int.1
33.	3667	4.Int.7

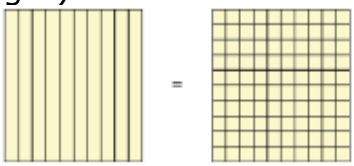
#5 Rubric	
Score	**Description**

3	Student response includes the following 3 elements.
	
	• **Computation component** = 1 point
	  ○ The student provides a valid equation and solution that represents the number of canoes needed, with work shown.
	• **Reasoning component** = 2 points
	  ○ The student provides a valid explanation of why the group's decision is incorrect.
	  ○ The student provides a valid explanation based on interpretation of the remainder.
	
	Sample Student Response:
	
	90-10=80
	
	80÷3=26 with a remainder of 2
	
	The group needs 27 canoes to hold the entire group of 80. The canoeing group's decision is not correct. They did not include the 2 remaining people in the group, 26 x 3 =78. The group needs one more canoe to include the other 2 remaining people.
	
	Notes:
	• A variety of explanations are possible. As long as the explanation shows a clear understanding of the incorrect thinking of the group, credit should be given.
	• If a computation mistake is made, credit cannot be given for the computation component, but 2 points can be given if both reasoning components are given.

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.

#11 Rubric	
Score	**Description**
3	Student response includes the following 3 elements. • **Modeling component** = 1 point ○ The student provides a valid equation for finding the least amount of tables needed for all students from both classes.

	Note: Equation should use a letter for the unknown value. • **Computation component** = 1 point ○ The student provides the correct number of tables needed, 12. • **Reasoning component** = 1 point ○ The student provides a valid explanation for how the correct number of tables was determined. Sample Student Response: 23 x 2 = 46 (number of students in both classes) 46÷ 4 = *t* (equation to find the total number of tables needed, *t* represents the answer) *t* = 11 with remainder of 2 (total number of tables) 12 tables are needed. Two classes of 23 students each equals 46 students. 46 students divided by 4 students (number per table) equals 11 tables. This would seat 44 students. 12 tables are needed for the other 2 remaining students.
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.

#22 Rubric Part A	
Score	**Description**
2	Student response includes the following 2 elements. • **Computation component** = 1 point ○ The student provides the equivalent fraction, $\frac{40}{100}$. • **Reasoning component** = 1 point ○ The student explains how the model can be used to show both fractions are equivalent. ○ Note: The explanation should contain a comparison of the model in tenths (model on the left) to the model in hundredths (model on the right):  Sample Student Response:

	$\frac{4}{10} = \frac{40}{100}$ I could use the model by knowing that 4 columns in the left model are equal to $\frac{4}{10}$. If I were to look at the same four columns in the right model, then there would be 40 blocks colored in. Note: Accept valid explanations are acceptable.
1	Student response includes 1 of the 2 elements.
0	Student response is incorrect or irrelevant.
#22 Rubric Part B	
Score	**Description**
2	Student response includes the following 2 elements. • **Computation component** = 1 point ○ The student provides the correct sum, $\frac{90}{100}$. • **Reasoning component** = 1 point ○ The student explains how to use the model to add fractions. Sample Student Response: $\frac{4}{10} + \frac{50}{100} = \frac{40}{100} + \frac{50}{100} = \frac{90}{100}$ I wrote $\frac{4}{10}$ as $\frac{40}{100}$ because there are 10 blocks in each column in the right model. I then added that to $\frac{50}{100}$. Note: Accept valid equations or explanations are acceptable.
1	Student response includes 1 of the 2 elements.
0	Student response is incorrect or irrelevant.

#26 Rubric Part A	
Score	**Description**
2	Student response includes the following 2 elements. • **Reasoning component** = 2 points ○ The student correctly determines the incorrect statement made by Jordon, Statement 3 and a valid explanation of why the chosen statement is incorrect. ○ The student provides a valid explanation of how to re-write the statement so it is correct. Sample Student Response: Statement 3 is incorrect. The fraction $\frac{6}{6}$ is not equal to 6. When the numerator and denominator are the same, it means the whole is divided into 6 equal pieces and we are shading or counting all 6 of those pieces. The fraction $\frac{6}{6}$ equals 1 whole. Note: Accept valid explanations are acceptable.
1	Student response includes 1 of the 2 elements.
0	Student response is incorrect or irrelevant.

#26 Rubric Part B	
Score	**Description**
2	Student response includes the following 2 elements. • **Reasoning component** = 2 points ○ The student correctly determines the incorrect statement by Landon is Statement 1 and provides a correct explanation of why the chosen statement is incorrect. ○ The student provides a valid explanation of how to re-write the incorrect statement so that it is correct. Sample Student Response: Statement 1 is incorrect. The fractions $\frac{2}{3}$ and $\frac{2}{4}$ are not equal. When the numerators of two fractions are the same, the denominators must also be the same for the two fractions to be equal. If two fractions have the same numerator, the fraction with the smaller denominator represents a greater value.

	The correct comparison is $\frac{2}{3} > \frac{2}{4}$ because thirds are larger than fourths, since one whole is divided into fewer pieces with thirds than with fourths. Note: Accept valid explanations are acceptable.
1	Student response includes 1 of the 2 elements.
0	Student response is incorrect or irrelevant.

#28 Rubric	
Score	**Description**

3	Student response includes the following 3 elements.
	
	• **Computation component** = 1 point
	  ○ The student provides a valid division equation.
	• **Reasoning component** = 2 points
	  ○ The student provides a valid multiplication equation to prove the division is true.
	  ○ The student provides a valid remainder, 6.
	
	Sample Student Response:
	
	  ○ 713 ÷ 7= 101 with a remainder of 6
	
	  ○ 713= (7 x 101) + 6
	
	Note:
	Students may use words or words and symbols to explain their reasoning.

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.