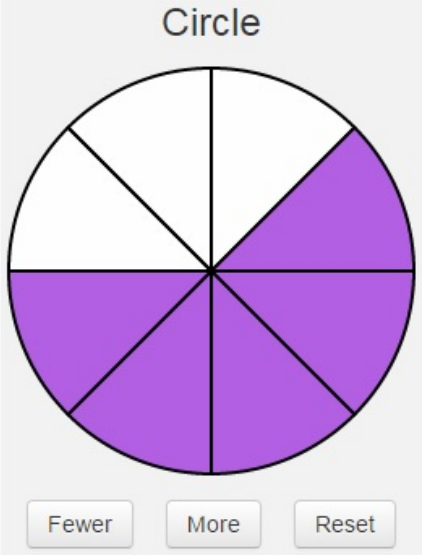
Released Test Answer and Alignment Document

Mathematics – Grade 3

Performance Based Assessment

The following pages include the answer key for all machine-scored items, followed by the rubrics for the hand-scored items.

- The rubrics show sample student responses. Other valid methods for solving the problem can earn full credit unless a specific method is required by the item.
- In items where the scores are awarded for full and partial credit, the definition of 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	Evidence Statement Key
1	80	3.OA.3-1
2	C	3.OA.7-1
3	 Or equivalent shading of any 5 sections.	3.NF.1
4	A, B, D	3.NF.3c
5	24	3.MD.1-1
6	A, C, D	3.OA.3-3

7	C	3.MD.5
8	B, D	3.OA.1
9	Part A: 19 Part B: 9	3.OA.8
10	Part A:135 Part B: 78	3.OA.8
11	Part A: see rubric Part B: see rubric Part C: see rubric	3.C.4-2
12	Part A: see rubric Part B: see rubric	3.C.3-2
13	See rubric	3.C.5-2
14	Part A: See rubric Part B: see rubric	3.C.4-7
15	See rubric	3.D.1
16	Part A: see rubric Part B: see rubric Part C: see rubric Part D: see rubric	3.D.2
17	See rubric	3.D.1

#11 Part A	
Score	**Description**
1	Student response includes the following element. • **Reasoning component** = 1 point o Valid explanation of why Fred's answer is incorrect. Sample Student Response: Fred's mistake was that he might have used the wrong multiplication fact to find his answer. He used 9 x 3 instead of 9 x 4. Because 9 x 4 = 36, then 36 ÷ 9 = 4. Notes: • A variety of explanations are valid, as long as it is clear that the student understands how the incorrect answer to 36 divided by 9 was found. • A student may possibly use repeated subtraction as a way to show the mistake: 36 – 9 = 27, 27 – 9 = 18, 18 – 9 = 9, 9 – 9 = 0. Credit should be given as long as the various steps are written as separate equations and not as a nonsense statement, and the response shows an understanding that because 9 was subtracted 4 times, the correct answer is 4 and not 3.
0	Student response is incorrect or irrelevant.

#11 Part B	
Score	**Description**
1	Student response includes the following element. • **Computation component** = 1 point o Correct answer, 4. Sample Student Response: 4
0	Student response is incorrect or irrelevant.

#11 Part C	
Score	**Description**
1	Student response includes the following element. • **Reasoning component** = 1 point o Student provides a multiplication problem to prove the provided answer is correct. Sample Student Response: 9 x 4 = 36 OR 4 x 9 = 36

	Note: If a computation mistake is made in Part B, credit for reasoning can be awarded in this part if a valid equation is provided.
0	Student response is incorrect or irrelevant.

#12 Part A	
Score	**Description**
1	Student response includes the following element. • **Computation component** = 1 point o Machine Scorable: 42
0	Student response is incorrect or irrelevant.

#12 Part B	
Score	**Description**
2	Student response includes the following 2 elements. • **Reasoning component** = 1 point o Valid explanation of how to find the total area of the porch or valid work for finding the total area • **Computation component** = 1 point o Correct total area, 96 Sample Student Response: I would find the area of each of the two sections of the porch, and then I would add them together. $6 \times 7 = 42$ $9 \times 6 = 54$ $42 + 54 = 96$ The total area of the porch is 96 square feet.
1	Student response includes 1 of the 2 elements.
0	Student response is incorrect or irrelevant.

#13 Rubric	
Score	**Description**
4	Student response includes the following 4 elements. • **Reasoning component** = 4 points o The area of the carpet with supporting work o The area of Walkway A with supporting work o The area of Walkway B with supporting work o The total area with supporting work Sample Student Response: The area of the carpet is 9 x 7 = 63 square feet. The area of Walkway A is 3 x 7 = 21 square feet. The area of Walkway B is 3 x 12 = 36 square feet. When you add them together to get the area of both tile walkways and the carpet, you get 120 square feet because 63 + 21 + 36 = 120 (or similar explanation). Note: When labels are not presented, the elements are scored in the same order as the prompt. The carpet is addressed first, the walkways next (in either order), and the total last.
3	Student response includes 3 of the 4 elements.
2	Student response includes 2 of the 4 elements.
1	Student response includes 1 of the 4 elements.
0	Student response is incorrect or irrelevant.

#14 Part A	
Score	**Description**
2	Student response includes the following 2 elements. • **Reasoning component** = 1 point o Valid explanation of why Jeanie's reasoning was incorrect using the ones place and tens place • **Computation component** = 1 point o Correct total number of buttons, 98 Sample Student Response: Jeanie's reasoning is incorrect because she didn't realize that 18 means 1 ten and 8 ones. So she didn't add the 10 when she added the other tens. She put the 8 tens in the hundreds place. The total number of buttons she has is 98 because $\begin{array}{r} {}^{1}2{}^{1}0 \\ 19 \\ 31 \\ +\ 28 \\ \hline 98. \end{array}$ Or equivalent explanation.
1	Student response includes 1 of the 2 elements.
0	Student response is incorrect or irrelevant.

#14 Part B	
Score	**Description**
2	Student response includes the following 2 elements. • **Reasoning component** = 1 point o Correct explanation of why Jeanie's reasoning for subtraction was incorrect • **Computation component** = 1 point o Correct number of buttons, 12 Sample Student Response: Jeanie's reasoning is incorrect because she subtracted the smaller number from the larger number in each place and did not consider the numbers 31 and 19 as two-digit numbers. She has 12 more red buttons than orange buttons.

	$\begin{array}{r} {}^{2}\not{3}\,{}^{1}1 \\ -\ 19 \\ \hline 12 \end{array}$ Or equivalent explanation.
1	Student response includes 1 of the 2 elements.
0	Student response is incorrect or irrelevant.

#15 Rubric	
Score	**Description**

3	Student response includes the following 3 elements.
	• **Modeling component** = 2 points
	  • Valid method to find the number of pictures in one package and gives the correct number of pictures; 9
	  • Valid method showing how the number of pictures in a package is used to find the number of packages
	• **Computation component** = 1 point
	  o Correct number of packages, 4
	Sample Student Response:
	Number of pictures in 1 package: $4 + 3 + 2 = 9$ pictures
	Number of packages: $36 \div 9 = 4$
	Mr. Haley bought 4 packages.

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 Part A	
Score	**Description**
1	Student response includes the following element. • **Computation component** = 1 point o Machine Scorable: D
0	Student response is incorrect or irrelevant.

#16 Part B	
Score	**Description**
1	Student response includes the following element. • **Computation component** = 1 point o Machine Scorable: C
0	Student response is incorrect or irrelevant.

#16 Part C	
Score	**Description**
1	Student response includes the following element. • **Computation component** = 1 point o Machine Scorable: 4
0	Student response is incorrect or irrelevant.

#16 Part D	
Score	**Description**
3	Student response includes the following 3 elements. • **Computation component** = 2 points o Correct number of total points scored by the top two scorers, 37 o Correct number of points scored by the rest of the team, 26 • **Modeling component** = 1 point o Correct work Sample Student Response: The top two players scored 37 points because 25 + 12 = 37. The rest of the team scored 26 points because 63 – 37 = 26. Notes: • A correct procedure that uses a single equation can receive credit for the total points scored by the top two scorers. A correct two step procedure that doesn't add the two top scorers can receive full credit. • Response does not need to show work for the total number of points scored by the Lions to receive credit (this was found in Part A).
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.

#17 Rubric	
Score	**Description**
3	Student response includes the following 3 elements. • **Modeling component** = 2 points o Valid method to find the total time traveling to and from the library o Valid method to find the difference between the time spent at the library and the time spent traveling to and from the library • **Computation component** = 1 point o Correct number of minutes, 4 Sample Student Response: Add the walking to the library time and the driving home time to get the total time traveling. 26 + 15 = 41 minutes Then subtract the total traveling time from the time spent at the library to get the difference. 45– 41 = 4 minutes Note: Any equation, drawing, or explanation that can reasonably be used to solve this problem is acceptable.
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.