# Mathematics – Grade 3

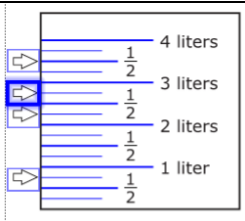
## Practice Test Answer and Alignment Document

## Online ABO

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.

### Unit 1

| Item Number | Answer Key | Evidence Statement Key/Content Scope |
|---|---|---|
| 1. | **A, D** | 3.OA.1 |
| 2. |  | 3.MD.2-1 |
| 3. | Part A: see rubric<br>Part B: **197**<br>Part C: see rubric | 3.D.2/2.OA.1 |
| 4. | **A, C, E** | 3.NF.1 |
| 5. |  | 3.NF.3c |
| 6. | Part A: see rubric<br>Part B: see rubric | 3.C.4-2/3.OA.B.06 |
| 7. | Part A: **632** | 3.Int.2 |

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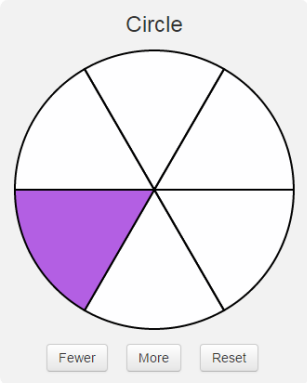
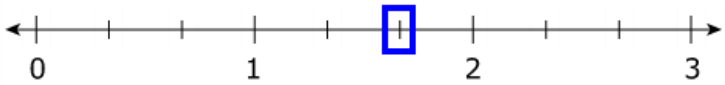
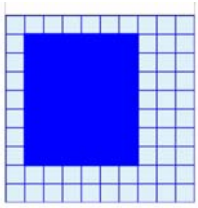
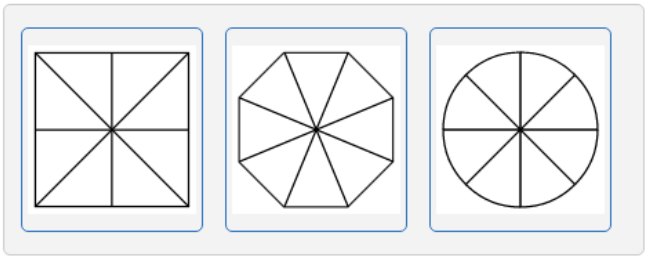
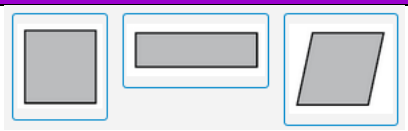
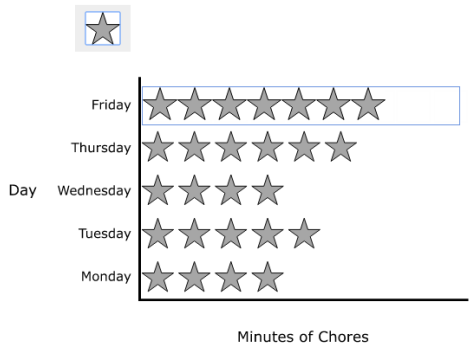
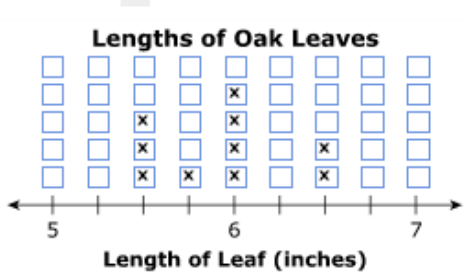
|---|---|---|
| | Part B: **9** | |
| 8. |  <br>or any of one of the 6 equal sections is shaded | 3.G.2 |
| 9. | **30** | 3.MD.1-2 |
| 10. |  | 3.NF.2 |
| 11. | **63, 6, 36, 8, 6** | 3.OA.7-2 |
| 12. | Part A:<br>  <br>Part B: see rubric | 3.D.1/3.OA.8 |

## Unit 2

| Item Number | Answer Key | Evidence Statement Key/Content Scope |
|---|---|---|
| 1. | **B, C, E** | 3.OA.2 |
| 2. | 4 Feet, 6 Feet — 24 Square Feet<br>4 Feet, 7 Feet — 28 Square Feet<br>3 Feet, 9 Feet — 27 Square Feet | 3.MD.7b-1 |
| 3. | **C** | 3.OA.3-1 |
| 4. |  | 3.G.2 |
| 5. | **8, 32, 7, 35** | 3.OA.4 |
| 6. | **56** | 3.NBT.2 |
| 7. | Part A: see rubric<br>Part B: **B, F** | 3.D.1/3.OA.3 and 3.NF.1 |
| 8. | Part A: **C**<br>Part B: **50** | 3.MD.3-3 |
| 9. | Part A: see rubric<br>Part B: see rubric | 3.C.1-3/3.MD.7 |

## Unit 3

| Item Number | Answer Key | Evidence Statement Key / Content Scope |
|---|---|---|
| 1. |  | 3.G.1 |
| 2. | **A, C, D** | 3.NF.3d |
| 3. | **7** | 3.MD.8 |
| 4. |  | 3.MD.3-1 |
| 5. | See rubric | 3.C.6-1/3.NF.2b |
| 6. | **240** | 3.NBT.3 |
| 7. | **6** | 3.OA.3-3 |
| 8. | **B** | 3.MD.1-1 |
| 9. | Part A: **420**<br>Part B: **114** | 3.Int.5 |
| 10. | **B, D, E** | 3.OA.7-1 |
| 11. | **B, C, E** | 3.NF.3b-1 |
| 12. |  | 3.MD.4 |

Rubrics start on the next page.

| Unit 1 #3 Rubric Part A | |
|---|---|
| **Score** | **Description** |
| **3** | Student response includes each of the following 3 elements.<br>• Computation component: 85 pennies<br>• Modeling component: shows correct use of addition<br>• Modeling component: shows correct use of subtraction<br><br>Sample Solution 1:<br>Addition of pennies in two jars ($16 + 94 = 110$) and then subtraction of pencil price from that sum ($110 - 25 = 85$).<br><br>Sample Solution 2:<br>Subtraction of pencil price from pennies in one jar ($94 - 25 = 69$) and then addition of the pennies in the other jar to the difference ($69 + 16 = 85$).<br>Notes:<br>o Student can get credit for both parts with a single equation such as $16 + 94 - 25 = 85$.<br>o Student does not need to show an equation, but if an equation is used, the equation must be correct. (e.g., $16 + 94 = 110 - 25 = 85$ is considered a nonsense equation and is NOT acceptable.) |
| **2** | Student response includes 2 of the 3 elements. Or, the student has a computation error, but provides a valid strategy. |
| **1** | Student response includes 1 of the 3 elements. |
| **0** | Student response is incorrect or irrelevant. |

| Unit 1 #3 Rubric Part B | |
|---|---|
| **Score** | **Description** |
| **1** | Computation component: 197 |
| **0** | Student response is incorrect. |

| Unit 1 #3 Rubric Part C | |
|---|---|
| **Score** | **Description** |
| **2** | Student response includes each of the following 2 elements.<br>• Computation component: 115 pennies<br>• Modeling component: The student shows a valid strategy to find the total number of pennies. For example, the student shows the equation $18 + 40 + 32 + 25 = 115$. |
| **1** | Student response includes 1 of the 2 elements. Or, the student has as computation error, but provides a valid strategy. |
| **0** | Student response is incorrect or irrelevant. |

| Unit 1 #6 Rubric Part A | |
|---|---|
| **Score** | **Description** |
| **1** | Reasoning component: The student correctly identifies the error in Cindy's error.<br>For example: "Cindy thought addition was the opposite of division." |
| **0** | Student response is incorrect or irrelevant. |

| Unit 1 #6 Rubric Part B | |
|---|---|
| **Score** | **Description** |
| **2** | Student response includes each of the following 2 elements.<br>• Reasoning component: The student explains that multiplication is the opposite of division. For example: "To find the quotient of $27 \div 9$, I need to know what number when multiplied by 9 has a product of 27.<br>• Computation component: $27 \div 9 = 3$<br><br>Notes:<br>o The student does not need to use the term "unknown factor" in his or her explanation.<br>o The equation does not have to be provided to receive credit as long as the student shows clear understanding of using an unknown factor problem to find the answer to a division problem.<br>o The student may provide only the equation for the computation part.<br>o The student may earn credit for another valid explanation, such as repeated addition or subtraction.<br>o The computation may be embedded within the reasoning. |
| **1** | Student response includes 1 of the 2 elements. |
| **0** | Student response is incorrect or irrelevant. |

| Unit 1 #12 Rubric Part A | |
|---|---|
| **Score** | **Description** |
| **1** | Modeling component: Student shades a $6 \times 7$ array. |
| **0** | Student does not shade a $6 \times 7$ array. |

| Unit 1 #12 Rubric Part B | |
|---|---|
| **Score** | **Description** |
| **2** | Student response includes each of the following 2 elements.<br>• Computation component: 42<br>• Modeling component: Student writes an equation showing how to find the area of the array. |

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| | Sample Student Response:<br><br>I shaded in an array of $6 \times 7$. I know $6 \times 7 = 42$, so the area of the array is 42. |
| **1** | Student response includes 1 of the 2 elements. Or, the student provides a valid equation showing the correct process for finding the area, but makes a computational error, such as, $6 \times 7 = 48$. |
| **0** | Student response is incorrect or irrelevant. |
| Unit 2 #7 Rubric Part A | |
| **Score** | **Description** |
| **2** | Student response includes each of the following 2 elements.<br>• Computation component: Correctly finds the cost of each can of paint, $9.<br>• Modeling component: Shows valid work or offers a valid explanation for finding the cost.<br><br>Sample Student Response:<br><br>To find the money spent on the paint, I multiplied the number of brushes by $5. I then subtracted that number from $94. The remaining amount is spent on paint. Since there are 6 sections, I divide $54 by 6. So the cost of each can of paint is $9.<br>OR<br>$8 \times 5 = 40$<br>$94 - 40 = 54$<br>$54 \div 6 = 9$<br><br>So the cost for each small can of paint is $9. |
| **1** | Student response includes 1 of the 2 elements. Or, the student has as computation error, but gives a valid explanation or shows a valid process. |
| **0** | Student response is incorrect or irrelevant. |
| Unit 2 #7 Rubric Part B | |
| **Score** | **Description** |
| **1** | Student selects both B and F. |
| **0** | Student response is incorrect. |
| Unit 2 #9 Rubric Part A | |
| **Score** | **Description** |
| **2** | Student response includes each of the following 2 elements. |

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| | • Computation component: The student identifies Table B and Table D as having the same area.<br>• Reasoning component: The student explains that the areas are the same because $3 \times 4 = 4 \times 3$.<br>Notes:<br>o Use of the term "commutative property" is not required.<br>o Full credit for both computation and reasoning is awarded if student states "Tables B and D are both $4 \times 3 = 12$ square feet." |
| **1** | Student response includes 1 of the 2 elements. |
| **0** | Student response is incorrect or irrelevant. |

| Unit 2 #9 Rubric Part B | |
|---|---|
| **Score** | **Description** |
| **2** | Student response includes each of the following 2 elements.<br>• Computation component: The student indicates that the total area of the combined tabletop is 18 square feet.<br>• Reasoning component: The student explains why both expressions are correct, such as, "The diagram shows you can either find the area of each table and add them together, $(3 \times 2) + (3 \times 4)$, or since they both have the same length, you can just add the 2 widths together and then multiply by the length, $3 \times (2 + 4)$."<br><br>Note: Use of the term "distributive property" is not required. |
| **1** | Student response includes 1 of the 2 elements. |
| **0** | Student response is incorrect or irrelevant. |

| Unit 3 #5 Rubric | |
|---|---|
| **Score** | **Description** |
| **3** | Student response includes each of the following 3 elements.<br>• Computation component: States that Point P represents $\frac{5}{6}$<br>• Reasoning component: Correct explanation for what the denominator represents<br>• Reasoning component: Correct explanation for what the numerator represents<br><br>Sample Student Response:<br><br>Point P is at $\frac{5}{6}$ on the number line. The denominator represents the total number of equal parts between 0 and 1. There are six equal |

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| | segments between 0 and 1 so each segment is $\frac{1}{6}$. The numerator represents the number of segments that the number is to the right of 0. So, if you count 5 segments of $\frac{1}{6}$, you end up at $\frac{5}{6}$. |
| **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. |