



**Practice Test Answer and Alignment Document**  
**Mathematics – Grade 3**  
**Pencil-and-Paper**

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.	D	3.NBT.2
3.	B	3.MD.1-1
4.	Part A: see rubric Part B: see rubric Part C: see rubric	3.D.2/2.OA.1
5.	A, C, E	3.NF.1
6.	36	3.OA.3-1
7.	B	3.NF.2
8.	Part A: see rubric Part B: see rubric	3.C.4-2/3.OA.B.06
9.	A, B, E	3.OA.7-2

10.	Part A: C Part B: 50	3.MD.3-3
11.	C	3.G.2
12.	253	3.MD.2-2

## Unit 2

Item Number	Answer Key	Evidence Statement Key/Content Scope
13.	B	3.NF.2
14.	A	3.OA.7-2
15.	See rubric	3.D.1/3.OA.8
16.	B, C, E	3.OA.2
17.	C, E	3.NBT.3
18.	Part A: 880 Part B: 32	3.OA.8
19.	B, C, F	3.MD.7b-1
20.	C	3.OA.3-1
21.	B	3.MD.2-1
22.	B, D	3.G.2

## Unit 3

Item Number	Answer Key	Evidence Statement Key/Content Scope
23.	A	3.OA.4
24.	349	3.NBT.2
25.	Part A: see rubric Part B: B, F	3.D.1/3.OA.3 and 3.NF.1
26.	Part A: 632	3.Int.2

	Part B: 9	
27.	7	3.OA.3-3
28.	See rubric	3.C.6-1/3.NF.2b
29.	B, C, E	3.NF.3b-1

## Unit 4

Item Number	Answer Key	Evidence Statement Key/Content Scope
30.	B, D, E	3.G.1
31.	A, C, D	3.NF.3d
32.	22	3.MD.8
33.	Part A: D Part B: see rubric	3.C.4-7/2.NBT.1 and 2.NBT.4
34.	C	3.OA.6
35.	B	3.MD.3-1
36.	Part A: see rubric Part B: see rubric	3.C.1-3/3.MD.7
37.	240	3.NBT.3
38.	6	3.OA.3-3
39.	C, D, E	3.MD.6
40.	Part A: D Part B: 190	3.Int.1
41.	B, D, E	3.OA.7-1
42.	C	3.NF.3c
43.	D	3.MD.4

Rubrics start on the next page.

Unit 1 #4 Rubric Part A

Score	Description
<b>3</b>	<p>Student response includes each of the following 3 elements.</p> <ul style="list-style-type: none"> <li>• Computation component: 85 pennies</li> <li>• Modeling component: shows correct use of addition</li> <li>• Modeling component: shows correct use of subtraction</li> </ul> <p>Sample Solution 1: Addition of pennies in two jars (<math>16 + 94 = 110</math>) and then subtraction of pencil price from that sum (<math>110 - 25 = 85</math>).</p> <p>Sample Solution 2: Subtraction of pencil price from pennies in one jar (<math>94 - 25 = 69</math>) and then addition of the pennies in the other jar to the difference (<math>69 + 16 = 85</math>).</p> <p>Notes:</p> <ul style="list-style-type: none"> <li>○ Student can get credit for both parts with a single equation such as <math>16 + 94 - 25 = 85</math>.</li> <li>○ Student does not need to show an equation, but if an equation is used, the equation must be correct. (e.g., <math>16 + 94 = 110 - 25 = 85</math> is considered a nonsense equation and is NOT acceptable.)</li> </ul>
<b>2</b>	Student response includes 2 of the 3 elements. Or, the student has a computation error, but provides a valid strategy.
<b>1</b>	Student response includes 1 of the 3 elements.
<b>0</b>	Student response is incorrect or irrelevant.

Unit 1 #4 Rubric Part B

Score	Description
<b>1</b>	Computation component: 197
<b>0</b>	Student response is incorrect.

Unit 1 #4 Rubric Part C

Score	Description
<b>2</b>	<p>Student response includes each of the following 2 elements.</p> <ul style="list-style-type: none"> <li>• Computation component: 115 pennies</li> <li>• Modeling component: The student shows a valid strategy to find the total number of pennies. For example, the student shows the equation <math>18 + 40 + 32 + 25 = 115</math>.</li> </ul>
<b>1</b>	Student response includes 1 of the 2 elements. Or, the student has as computation error, but provides a valid strategy.

<b>0</b>	Student response is incorrect or irrelevant.
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**Unit 1 #8 Rubric Part A**

<b>Score</b>	<b>Description</b>
<b>1</b>	Reasoning component: The student correctly identifies the error in Cindy's error. For example: "Cindy thought addition was the opposite of division."
<b>0</b>	Student response is incorrect or irrelevant.

**Unit 1 #8 Rubric Part B**

<b>Score</b>	<b>Description</b>
<b>2</b>	<p>Student response includes each of the following 2 elements.</p> <ul style="list-style-type: none"> <li>• Reasoning component: The student explains that multiplication is the opposite of division. For example: "To find the quotient of <math>27 \div 9</math>, I need to know what number when multiplied by 9 has a product of 27.</li> <li>• Computation component: <math>27 \div 9 = 3</math></li> </ul> <p>Notes:</p> <ul style="list-style-type: none"> <li>○ The student does not need to use the term "unknown factor" in his or her explanation.</li> <li>○ 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.</li> <li>○ The student may provide only the equation for the computation part.</li> <li>○ The student may earn credit for another valid explanation, such as repeated addition or subtraction.</li> <li>○ The computation may be embedded within the reasoning.</li> </ul>
<b>1</b>	Student response includes 1 of the 2 elements.
<b>0</b>	Student response is incorrect or irrelevant.

**Unit 2 #15 Rubric**

<b>Score</b>	<b>Description</b>
<b>3</b>	<p>Student response includes each of the following 3 elements.</p> <ul style="list-style-type: none"> <li>• Computation component: Identifies the correct area of 103 square meters.</li> <li>• Modeling component: Provides equations showing how to find the areas of the two sections of the playground.</li> </ul>

	<ul style="list-style-type: none"> <li>Modeling component: Provides an equation to find the total area of the playground.</li> </ul> <p>Sample Student Response:</p> <p>The total area is 103 square meters. The area is divided into two rectangles. If you add the area of the two rectangles, you will find the area of the whole playground. <math>(7 \times 7) + (9 \times 6) = 49 + 54</math> <math>49 + 54 = 103</math></p> <p>Notes:</p> <ul style="list-style-type: none"> <li>Labeling the answer with square meters is not required. However, if the student provides a label which is incorrect, the student cannot earn the top score of 3.</li> <li>The student receives full credit for the modeling components for writing a single equation if the equation shows how to find the areas of the two sections and the total area of the playground, e.g. <math>(7 \times 7) + (9 \times 6) = 49 + 54 = 103</math>.</li> </ul>
<b>2</b>	<p>Student response includes 2 of the 3 elements. Or, the student does not compute the correct total area due to a computational error, but provides a valid strategy and valid equations, such as:</p> $(7 \times 7) + (9 \times 6) = 49 + 56$ $49 + 56 = 105$
<b>1</b>	Student response includes 1 of the 3 elements.
<b>0</b>	Student response is incorrect or irrelevant.

Unit 3 #25 Rubric Part A	
Score	Description
<b>2</b>	<p>Student response includes each of the following 2 elements.</p> <ul style="list-style-type: none"> <li>Computation component: Correctly finds the cost of each can of paint, \$9.</li> <li>Modeling component: Shows valid work or offers a valid explanation for finding the cost.</li> </ul> <p>Sample Student Response:</p> <p>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.</p> <p>OR</p>

	$8 \times 5 = 40$ $94 - 40 = 54$ $54 \div 6 = 9$  So the cost for each small can of paint is \$9.
<b>1</b>	Student response includes 1 of the 2 elements. Or, the student has a computation error, but gives a valid explanation or shows a valid process.
<b>0</b>	Student response is incorrect or irrelevant.
<b>Unit 3 #25 Rubric Part B</b>	
<b>Score</b>	<b>Description</b>
<b>1</b>	Student selects both B and F.
<b>0</b>	Student response is incorrect.

<b>Unit 3 #28 Rubric</b>	
<b>Score</b>	<b>Description</b>
<b>3</b>	<p>Student response includes each of the following 3 elements.</p> <ul style="list-style-type: none"> <li>• Computation component: States that Point P represents <math>\frac{5}{6}</math></li> <li>• Reasoning component: Correct explanation for what the denominator represents</li> <li>• Reasoning component: Correct explanation for what the numerator represents</li> </ul> <p>Sample Student Response:</p> <p>Point P is at <math>\frac{5}{6}</math> on the number line. The denominator represents the total number of equal parts between 0 and 1. There are six equal segments between 0 and 1 so each segment is <math>\frac{1}{6}</math>. The numerator represents the number of segments that the number is to the right of 0. So, if you count 5 segments of <math>\frac{1}{6}</math>, you end up at <math>\frac{5}{6}</math>.</p>
<b>2</b>	Student response includes 2 of the 3 elements.
<b>1</b>	Student response includes 1 of the 3 elements.
<b>0</b>	Student response is incorrect or irrelevant.

**Unit 4 #33 Rubric A**

Score	Description
1	Computation component: Student selects choice D.
0	Student response is incorrect.
<b>Unit 4 #33 Rubric Part B</b>	
Score	Description
3	<p>Student response includes each of the following 3 elements.</p> <ul style="list-style-type: none"> <li>Reasoning component: Correct explanation of Daniel's error</li> <li>Computation component: Correctly identifies the greatest number as 765</li> <li>Reasoning component: Correct explanation of answer given</li> </ul> <p>Sample Student Response:</p> <p>Daniel's answer is not correct because 7 is not in the place with the greatest value. It's in the place with the least value. The greatest number is 765.</p> <p>You have to put the digits in order from greatest to least to make the largest number. The greatest digit, 7, is in the hundreds place and has the greatest value. The next-greatest digit, 6, is in the tens place and has the next-greatest value. The least digit, 5, is in the ones place and has the least value.</p>
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.

<b>Unit 4 #36 Rubric Part A</b>	
Score	Description
2	<p>Student response includes each of the following 2 elements.</p> <ul style="list-style-type: none"> <li>Computation component: The student identifies Table B and Table D as having the same area.</li> <li>Reasoning component: The student explains that the areas are the same because <math>3 \times 4 = 4 \times 3</math>.</li> </ul> <p>Notes:</p> <ul style="list-style-type: none"> <li>Use of the term "commutative property" is not required.</li> <li>Full credit for both computation and reasoning is awarded if student states "Tables B and D are both <math>4 \times 3 = 12</math> square feet."</li> </ul>
1	Student response includes 1 of the 2 elements.
0	Student response is incorrect or irrelevant.



Unit 4 #36 Rubric Part B

Score	Description
2	<p>Student response includes each of the following 2 elements.</p> <ul style="list-style-type: none"> <li>• Computation component: The student indicates that the total area of the combined tabletop is 18 square feet.</li> <li>• 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, <math>(3 \times 2) + (3 \times 4)</math>, or since they both have the same length, you can just add the 2 widths together and then multiply by the length, <math>3 \times (2 + 4)</math>."</li> </ul> <p>Note: Use of the term "distributive property" is not required.</p>
1	Student response includes 1 of the 2 elements.
0	Student response is incorrect or irrelevant.