

STUDENT NAME: \_\_\_\_\_

STUDENT SCORE: \_\_\_\_\_



**MISSISSIPPI ASSESSMENT PROGRAM (MAP)  
MATHEMATICS  
PRACTICE TESTLET  
GRADE 4  
(REVISED MARCH 2016)**

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**Carey M. Wright, Ed.D., State Superintendent of Education**

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A Joint Publication

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## **Introduction**

### **Purpose**

The practice testlet is designed to provide students with an authentic opportunity to practice items that are aligned to the Mississippi College-and Career-Readiness Standards (MS CCRS) and that mirror those that may appear on the mathematics MAP assessment. The testlet is also intended to provide teachers with data to drive classroom instruction and provide direct feedback to students. It is **NOT** intended to predict student performance on the operational MAP assessment.

### **Structure**

The mathematics testlet contains various item types that will be administered on the MAP assessment, such as standard multiple choice, matching, multiple select, and fill in the blank. At the end of the testlet are a series of performance task items, which will assess the performance task standards found in the mathematics MAP blueprint.

### **Directions**

1. Allow students to complete each item type and performance task in the testlet.
2. Teachers will review student responses to the items and score the items and the performance task using the scoring key.
3. Teachers should review the results to determine the needed instructional approach.
4. Teachers can utilize the testlets as teaching tools to help students gain a deeper understanding of the MS CCRS.
5. At the bottom left of each page is an item tag, which will contain the item number, grade level, suggested DOK level, and the standard aligned to the item.

1. A group of 4<sup>th</sup> grade students from Isable Elementary School are riding the bus to the Jackson City Zoo for a field trip. A summary of what the students are wearing is shown below.

$\frac{2}{6}$  of the students are wearing tan pants.

$\frac{6}{10}$  of the students are wearing tennis shoes.

$\frac{5}{12}$  of the students are wearing a red shirt.

$\frac{2}{3}$  of the students are wearing a hat.

Directions: Determine if less than half or if more than half of the students are wearing each type of clothing. Select a bubble in each row.

Clothing	Less than Half	More than Half
Tan pants	<input type="radio"/>	<input type="radio"/>
Tennis shoes	<input type="radio"/>	<input type="radio"/>
Red shirt	<input type="radio"/>	<input type="radio"/>
Hat	<input type="radio"/>	<input type="radio"/>

01-GR4-LV2-4.NF.2

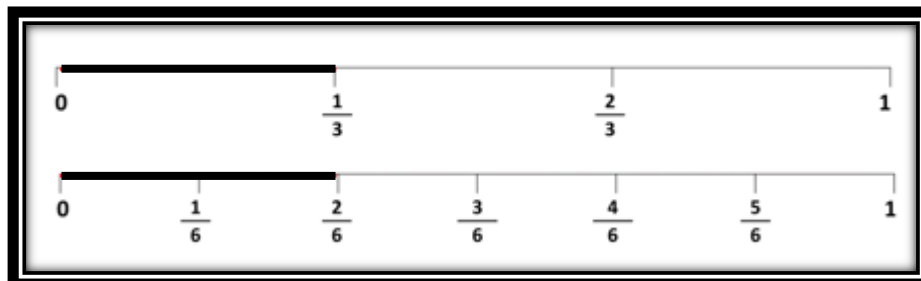
2. Directions: Review the three events and fraction models below. Draw a line to match the event with the fraction model it represents.

Row	Event
A	Jean makes $\frac{1}{5}$ pound of pasta for each person at her dinner party. If 7 people attend the party, how many pounds of pasta will be needed for her guests?
B	Kim is making punch. The punch uses $\frac{3}{4}$ cup of orange juice for one serving. If she makes 8 servings, how many cups of orange juice does she need?
C	Trecina runs $\frac{2}{3}$ of a mile every day. How far does she run in one week?

Row	Fraction Model
1	
2	
3	

02-GR4-LV2-4.NF.4

3. Which number sentence can be used to justify that the two fractions shown on each number line are equivalent?



- A.  $\frac{1 \times 2}{3 \times 2} = \frac{2}{6}$
- B.  $\frac{2 \times 2}{6 \times 3} = \frac{1}{3}$
- C.  $\frac{2 \times 1}{6 \times 3} = \frac{1}{9}$
- D.  $\frac{1 \times 2}{3 \times 3} = \frac{2}{6}$

03-GR4-LV1-4.NF.1

4. Directions: Read each equation below on the left. Draw a line between the equation on the left to the missing number on the right that makes each equation true.

Row	Equation
A.	$\frac{3}{100} + ? = \frac{23}{100}$
B.	$\frac{17}{100} + \frac{8}{10} = ?$
C.	$? = \frac{8}{100} + \frac{32}{100}$
D.	$\frac{4}{10} + ? = \frac{64}{100}$

Row	Missing Number
1.	$\frac{97}{100}$
2.	$\frac{4}{10}$
3.	$\frac{24}{100}$
4.	$\frac{2}{10}$

04-GR4-LV2-4.NF.5

5. Neil walks  $\frac{2}{10}$  of a mile to school. Tyra walks  $\frac{7}{10}$  of a mile to school. Which statement correctly explains how to find how much farther Tyra has to walk to school than Neil?

- A. Subtract the numerator of Neil's distance from the numerator of Tyra's distance and keep the denominators the same.
- B. Subtract the numerator of Neil's distance from the numerator of Tyra's distance. Then subtract the denominators.
- C. Add the numerator of Neil's distance to the numerator of Tyra's distance and keep the denominators the same.
- D. Add the numerator of Neil's distance to the numerator of Tyra's. Then add the denominators.

05-GR4-LV2-4.NF.3d



6. Directions: Determine whether each expression is true or false. Select one bubble in each row.

<b>Expression</b>	<b>True</b>	<b>False</b>
6 hundreds + 5 tens > 60 + 500	<input type="radio"/>	<input type="radio"/>
635 < 60 + 300 + 5	<input type="radio"/>	<input type="radio"/>
60 tens + 30 ones = 630	<input type="radio"/>	<input type="radio"/>

06-GR4-LV2-4.NBT.2

7. Which three statements below are true?

A. 0.4 meter  $>$  0.04 meter

B. 0.5 meter  $<$  0.65 meter

C. 4.61 meters  $<$  4.06 meters

D. 1 and 43 hundredths of a meter is larger than 1 and 4 tenths of a meter

E. 1 and 34 hundredths of a meter is larger than 1 and 4 tenths of a meter

07-GR4-LV1-4.NF.7

8. Which two equations below are valid?

A.  $\frac{4}{10} = 0.04$

B.  $\frac{17}{100} = 0.17$

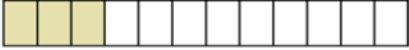
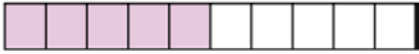
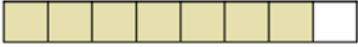
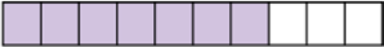
C.  $\frac{9}{10} = 0.9$

D.  $\frac{6}{100} = 0.60$

E.  $\frac{3}{100} = 0.30$

08-GR4-LV2-4.NF.6

9. Directions: Consider the shaded area of each fraction model below. Match each fraction model on the left to the correct expression on the right.

Row	Fraction Model
A.	
B.	
C.	
D.	

Row	Expression
1.	$\frac{1}{10} + \frac{1}{10} + \frac{1}{10} + \frac{1}{10} + \frac{1}{10} + \frac{1}{10} + \frac{1}{10}$
2.	$\frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$
3.	$\frac{1}{12} + \frac{1}{12} + \frac{1}{12}$
4.	$\frac{1}{10} + \frac{1}{10} + \frac{1}{10} + \frac{1}{10} + \frac{1}{10}$

09-GR4-LV2-4.NF.3b

10. Directions: Consider the place values in the numbers 310 and 3100. Select the statement below that explains how the numbers 310 and 3100 are different with respect to place value.

A. 3100 is 1000 times as large as 310.

B. 3100 is 100 times as large as 310.

C. 3100 is 10 times as large as 310.

D. 3100 is 1 times as large as 310.

10-GR4-LV1-4.NBT.1

11. Directions: Determine the missing number that belongs in each rectangle in the subtraction problem below.

$$\begin{array}{r} \phantom{6} \phantom{A.} \phantom{8} \phantom{7} \\ - \phantom{B.} \phantom{5} \phantom{7} \phantom{C.} \\ \hline \phantom{1} \phantom{5} \phantom{D.} \phantom{8} \end{array}$$

A subtraction problem is shown with four columns. The top row contains the numbers 6, A., 8, and 7. The middle row contains the numbers B., 5, 7, and C. The bottom row contains the numbers 1, 5, D., and 8. A horizontal line is drawn under the bottom row. Each of the four numbers (A., B., C., and D.) is enclosed in a colored rectangular box: A. is in a blue box, B. is in an orange box, C. is in a green box, and D. is in a yellow box.

11-GR4-LV1-4.NBT.4

12. Jane created a number story that can be answered by multiplying  $8 \times 4$ . Which two number stories below might Jane have written?
- A. There are four minivans going to the state park. Each minivan has eight people in it. How many people are going to the state park?
  - B. There are eight people playing a game. They form four teams with the same number of people on each team. How many people are on each team?
  - C. There are eight tennis balls in each package. Victoria bought four packages of tennis balls. How many tennis balls did Victoria buy?
  - D. Liz jogged four miles on Monday and eight miles on Tuesday. How many miles did Liz jog altogether?
  - E. Jackson made eight batches of chocolate chip cookies. He gave four batches away to his friends. How many batches of chocolate chip cookies does Jackson have left?

12-GR4-LV2-4.OA.1

13. Which four numbers listed below are a multiple of seven?

A. 28

B. 54

C. 63

D. 77

E. 91

13-GR4-LV1-4.OA.4



14. When rounded to the nearest hundred, which three numbers listed below can be rounded to 4,500?

A. 4,590

B. 4,472

C. 4,548

D. 4,427

E. 4,456

14-GR4-LV1-4.NBT.3

15. Directions: Determine whether each statement is true or false. Select one bubble in each row.

<b>Statement</b>	<b>True</b>	<b>False</b>
The product of 4 and 10 has 0 ones.	<input type="radio"/>	<input type="radio"/>
The product of 40 and 10 has 2 zeros.	<input type="radio"/>	<input type="radio"/>
The product of 44 and 10 has 4 hundreds and 4 tens.	<input type="radio"/>	<input type="radio"/>
The product of 44 and 100 has 3 zeros.	<input type="radio"/>	<input type="radio"/>

15-GR4-LV2-4.NBT.1

16. Ashanti and Drake created a picture of the night sky using star stickers. Ashanti used 13 times the number of stickers Drake used. How many stars could Ashanti and Drake each have used? Select three possible solutions below.

- A. Ashanti used 78; Drake used 6
- B. Ashanti used 9; Drake used 117
- C. Ashanti used 6; Drake used 78
- D. Ashanti used 117; Drake used 9
- E. Ashanti used 143; Drake used 11

16-GR4-LV2-4.OA.1

17. Directions: Review the incomplete equation below. Select the number that makes the equation true.

$$47 \times 86 = 3,200 + \boxed{\phantom{000}} + 560 + 42$$

- A. 240
- B. 280
- C. 320
- D. 360

17-GR4-LV2-4.NBT.5

18. There are 48 chairs in the art room. What are the different ways the chairs can be arranged into equal groups if you want at least two groups with at least two chairs in each group? Select three possible arrangements.
- A. 2 groups of 12 chairs
  - B. 2 groups of 24 chairs
  - C. 3 groups of 16 chairs
  - D. 3 groups of 18 chairs
  - E. 8 groups of 6 chairs

18-GR4-LV1-4.OA.4

19. The value of the digit 6 in the number 64,953 is 10 times the value of the digit 6 in which number listed below?

A. 56,831

B. 269,834

C. 634,908

D. 510,600

19-GR4-LV1-4.NBT.1

20. Michelle brings three liters of sweet tea to share with her friends at a party. At the end of the party, 860 milliliters of sweet tea remain.

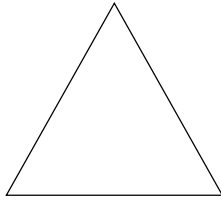
Which statement explains how to find the number of milliliters of sweet tea that Michelle and her friends drank at the party?

- A. Convert 3 liters to milliliters by multiplying 3 by 1,000. Then add the number of milliliters that remain to the number of milliliters Michelle brought.
- B. Convert 3 liters to milliliters by multiplying 3 by 100. Then subtract the number of milliliters that remain from the number of milliliters Michelle brought.
- C. Convert 3 liters to milliliters by multiplying 3 by 100. Then add the number of milliliters that remain to the number of milliliters Michelle brought.
- D. Convert 3 liters to milliliters by multiplying 3 by 1,000. Then subtract the number of milliliters that remain from the number of milliliters Michelle brought.

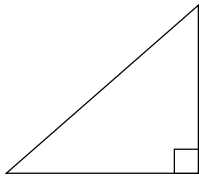
20-GR4-LV2-4.MD.2

21. Which two shapes below are right triangles?

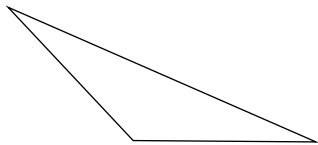
A.



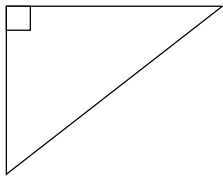
B.



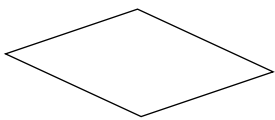
C.



D.



E.



21-GR4-LV1-4.G.2



22. Which set of numbers best completes the number pattern shown below?

94	85	76	?	?	?
----	----	----	---	---	---

- A. 65, 56, 47
- B. 66, 57, 48
- C. 67, 58, 49
- D. 69, 58, 47

22-GR4-LV1-4.OA.5

23. Alberto, Olivia, Bailey, Sivan, and Kenyatta are friends. They each own dogs as pets. They wanted to know which of their dogs weigh the most. Below are clues to each dogs' weight. Use the clues to figure out how much each dog weighs.

- **Clue 1:** Bruiser weighs 4 times as much as Princess.
- **Clue 2:** Polo weighs 3 more pounds than Bailey's dog.
- **Clue 3:** Shadow's weight is 5 pounds more than Max's weight.
- **Clue 4:** Sivan's dog weighs 4 times as much as Polo.
- **Clue 5:** Max is 5 times heavier than Princess.
- **Clue 6:** Olivia's dog weighs 7 pounds more than Bruiser.
- **Clue 7:** Polo weighs 10 pounds.

Directions: Using the seven clues, draw a line to match each owner and dog on the left to the dog's weight on the right.

Row	Owner and Dog
A.	Alberto and Bruiser
B.	Olivia and Max
C.	Bailey and Princess
D.	Sivan and Shadow
E.	Kenyatta and Polo

Row	Dog's Weight
1.	7 pounds
2.	10 pounds
3.	28 pounds
4.	35 pounds
5.	40 pounds

23-GR4-LV2-4.OA.2

24. Rectangle  $EFGH$  is shown below.



Directions: Draw a line to match each set of line segments to the correct relationship.

*Note:* Each relationship will be used twice.

Row	Line Segment
A.	$\overline{EF}$ and $\overline{FG}$
B.	$\overline{EF}$ and $\overline{GH}$
C.	$\overline{FG}$ and $\overline{EH}$
D.	$\overline{GH}$ and $\overline{HE}$

Row	Relationship
1.	Parallel Lines
2.	Perpendicular Lines

24-GR4-LV1-4.G.1

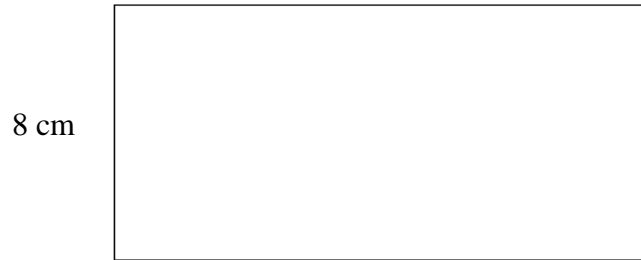
25. Directions: The tables below include the area, perimeter, and dimensions of five different rectangles. Draw a line to match the area or perimeter of each rectangle on the left to its possible dimensions on the right.

Row	Area or Perimeter of the Rectangle
A.	Area = 36 square units
B.	Area = 24 square units
C.	Perimeter = 36 units
D.	Perimeter = 24 units
E.	Area = 40 square units

Row	Dimensions of the Rectangle
1.	Length = 4 units, Width = 9 units
2.	Length = 5 units, Width = 8 units
3.	Length = 2 units, Width = 12 units
4.	Length = 8 units, Width = 4 units
5.	Length = 9 units, Width = 9 units

25-GR4-LV2-4.MD.3

26. The area of the rectangle below is 424 square centimeters. What is the perimeter of the rectangle?



- A. 53 cm
- B. 61 cm
- C. 106 cm
- D. 122 cm

26-GR4-LV2-4.MD.3

27. Kylie's family owns a farm. Her father built a five-sided fence to create a holding pen for their animals. The corners of the fence form an  $108^\circ$  angle as shown below.

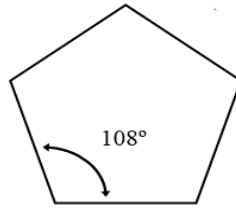


Figure not drawn to scale.

Kylie's father needs to split up the holding pen to make smaller sections for the different animals on their farm. Kylie created the three different drawings below to show how her father could create the smaller sections. Each dotted line on her drawings represents a new fence.

Drawing A	Drawing B	Drawing C

What is the measure of the missing angle formed by the new fence in each drawing?

Drawing A \_\_\_\_\_      Drawing B \_\_\_\_\_      Drawing C \_\_\_\_\_

27-GR4-LV1-4.MD.7

28. Aidan and his sister Jovana will sell lemonade at the next community picnic. They have a large, 12-gallon container to hold the lemonade. They need to fill the container with eight gallons of water. Aidan will use a one-quart container to fill the container.

**Part A**

How many one-quart containers will Aidan need to fill the large, 12-gallon container with eight gallons of water?

- A. 2
- B. 4
- C. 32
- D. 34

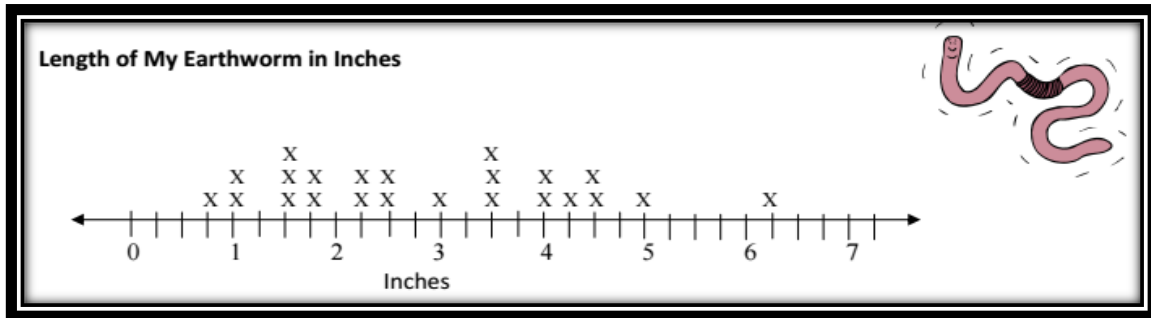
**Part B**

Jovana is in charge of adding lemon juice to the water. She has smaller containers that each hold one pint of lemon juice. The lemonade recipe requires them to add four quarts of lemon juice to the water. How many pints of lemon juice will Jovana need to add so that she has four quarts in all?

- A. 2
- B. 4
- C. 6
- D. 8

28-GR4-LV2-4.MD.1

29. Mrs. Davis' science class raised earthworms as part of their lesson on the food chain. They decided to measure each earthworm and record the data on the line plot below.



Directions: Draw a line to match each question on the left to the correct answer on the right.

Row	Questions
A.	What is the length of the shortest worm?
B.	What is the length of longest worm?
C.	What is the difference between the length of the longest worm and the length of shortest worm?
D.	What is the combined length of the longest worm and shortest worm?

Row	Answers
1.	$6\frac{1}{4}$ inches
2.	7 inches
3.	$5\frac{2}{4}$ inches
4.	$\frac{3}{4}$ inch

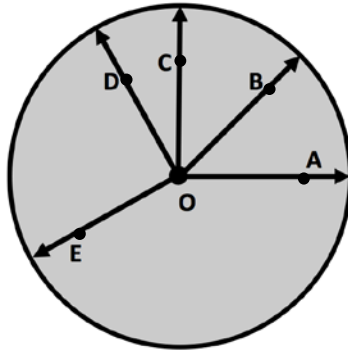
29-GR4-LV2-4.MD.4



### Grade 4 Performance Task:

Directions: Use the following information and a small protractor to answer items 30-36.

Circle Town, Mississippi is shaped like a circle. All of the roads start in the center of the town and extend from the center like rays. A map of Circle Town is shown below.

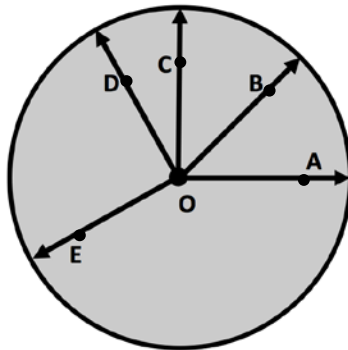


30. Jackson Street extends to the right from the center of town. Which ray represents Jackson Street?

31. Tupelo Drive and Jackson Street form a 90 degree angle. Which ray represents Tupelo Drive?

30-GR4-LV1-4.G.1

31-GR4-LV1-4.G.1

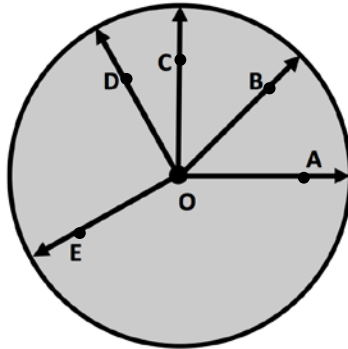


32. Biloxi Boulevard forms a 120 degree angle with Tupelo Drive. Which ray represents Biloxi Boulevard?

33. Greenville Drive forms a 45 degree angle with Jackson Street. Which ray represents Greenville Drive?

32-GR4-LV1-4.MD.5 and 4.MD.6

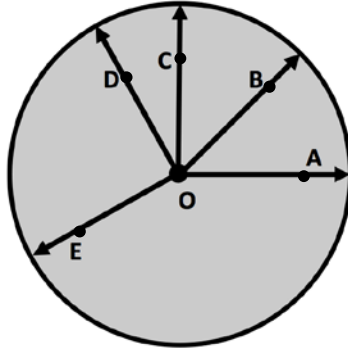
33-GR4-LV1-4.MD.5 and 4.MD.6



34. Natchez Lane forms a right angle with Biloxi Boulevard. Which ray represents Natchez Lane?

35. What is the measure of the angle between Jackson Street and Biloxi Boulevard?

34-GR4-LV1-4.G.1  
35-GR4-LV1-4.MD.5



36. Circle Town is growing, and the city planners have decided to build a new road from the center of town called Canton Lane. A 90 degree angle will be divided into two smaller angles by Canton Lane. Both angles will measure less than 90 degrees; therefore the angles are classified as \_\_\_\_\_ angles.

36-GR4-LV1-4.MD.7

### Grade 4 Answer Key

Item	Standard	Answer	Point Value
1	4.NF.2	A1, B2, C1, D2	2 pts
2	4.NF.4	A3, B1, C2	1 pt
3	4.NF.1	A	1 pt
4	4.NF.5	A4, B1, C2, D3	2 pts
5	4.NF.3d	A	1 pt
6	4.NBT.2	A1, B2, C1	1 pt
7	4.NF.7	A, B, D	1 pt
8	4.NF.6	B, C	1 pt
9	4.NF.3b	A3, B4, C2, D1	2 pts
10	4.NBT.1	C	1 pt
11	4.NBT.4	A. Blue = 0, B. Orange = 4, C. Green = 9, D. Yellow = 0	1 pt
12	4.OA.1	A, C	1 pt
13	4.OA.4	A, C, D, E	2 pts
14	4.NBT.3	B, C, E	1 pt
15	4.NBT.1	A1, B1, C1, D2	2 pts
16	4.OA.1	A, D, E	1 pt
17	4.NBT.5	A	1 pt
18	4.OA.4	B, C, E	1 pt
19	4.NBT.1	A	1 pt
20	4.MD.2	D	1 pt
21	4.G.2	B, D	1 pt
22	4.OA.5	C	1 pt
23	4.OA.2	A3, B4, C1, D5, E2	2 pts
24	4.G.1	A2, B1, C1, D2	2 pts
25	4.MD.3	A1, B3, C5, D4, E2	2 pts
26	4.MD.3	D	1 pt
27	4.MD.7	Drawing A: $72^\circ$ Drawing B: $68^\circ$ Drawing C: $54^\circ$	1 pt
28	4.MD.1	Part A: C Part B: D	2 pts
29	4.MD.4	A4, B1, C3, D2	2 pts
30	4.G.1	Ray OA or $\overrightarrow{OA}$	1 pt
31	4.G.1	Ray OC or $\overrightarrow{OC}$	1 pt
32	4.MD.5, 4.MD.6	Ray OE or $\overrightarrow{OE}$	1 pt
33	4.MD.5, 4.MD.6	Ray OB or $\overrightarrow{OB}$	1 pt
34	4.G.1	Ray OD or $\overrightarrow{OD}$	1 pt
35	4.MD.5	$210^\circ$ for a counterclockwise rotation or $(-150^\circ$ is an acceptable answer for a	1 pt

<b>Item</b>	<b>Standard</b>	<b>Answer</b>	<b>Point Value</b>
		clockwise rotation. This is left to the teacher's discretion.)	
36	4.MD.7	Acute	1 pt
<b>Total Points</b>			<b>46 pts</b>

**Scoring Rules**

Step #1: Use the answer key to view the maximum point value for each item.

Step #2: Add the total number of points the student has earned, and divide by the total number of points possible.

Step #3: Determine if the student has earned at least 80% of the total points.