# Illinois IAR Grade 4 Math Practice

Exam Materials
Pages 2 - 31

Answer Key Materials
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# Unit 1

**Directions:**

Today, you will take Unit 1 of the Grade 4 Mathematics Practice Test. You will not be able to use a calculator.

Read each question. Then, follow the directions to answer each question. Mark your answers by completely filling in the circles in your answer document. Do not make any pencil marks outside of the circles. If you need to change an answer, be sure to erase your first answer completely. If a question asks you to show or explain your work, you must do so to receive full credit. Only responses written within the provided space will be scored.

If you do not know the answer to a question, you may go on to the next question. If you finish early, you may review your answers and any questions you did not answer in this unit ONLY. Do not go past the stop sign.

## Directions for Completing the Answer Grids

1. Work the problem and find an answer.

2. Write your answer in the boxes at the top of the grid.

3. Print only one number or symbol in each box. Do not leave a blank box in the middle of an answer.

4. Under each box, fill in the circle that matches the number or symbol you wrote above. Make a solid mark that completely fills the circle.

5. Do not fill in a circle under an unused box.

6. Fractions cannot be entered into an answer grid and will not be scored. Enter fractions as decimals.

7. See below for examples on how to correctly complete an answer grid.
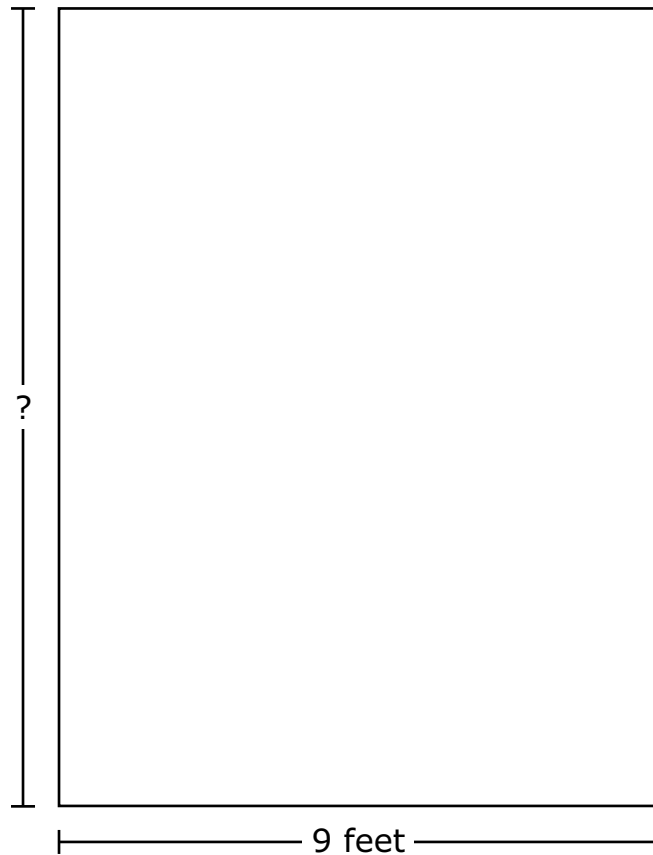
## EXAMPLES

To answer 632 in a question, fill in the answer grid as shown below.

To answer .75 in a question, fill in the answer grid as shown below.

**GO ON ▶**

**1.** The area of the rectangular sandbox at Dave's school is 108 square feet.

The sandbox has a width of 9 feet as shown in the diagram.



?

9 feet

What is the length, in feet, of the sandbox?

Enter your answer in the box.

**GO ON ▶**

**2.**   Enter your answer in the box.

$3{,}649 \times 6 =$

**GO ON** ▶

Use the information provided to answer Part A through Part C for question 3.

Ms. Sloan asked 117 fourth-grade students the question, "How many pets do you have?" She displayed the data she collected in the bar graph shown.

**Students with Pets**
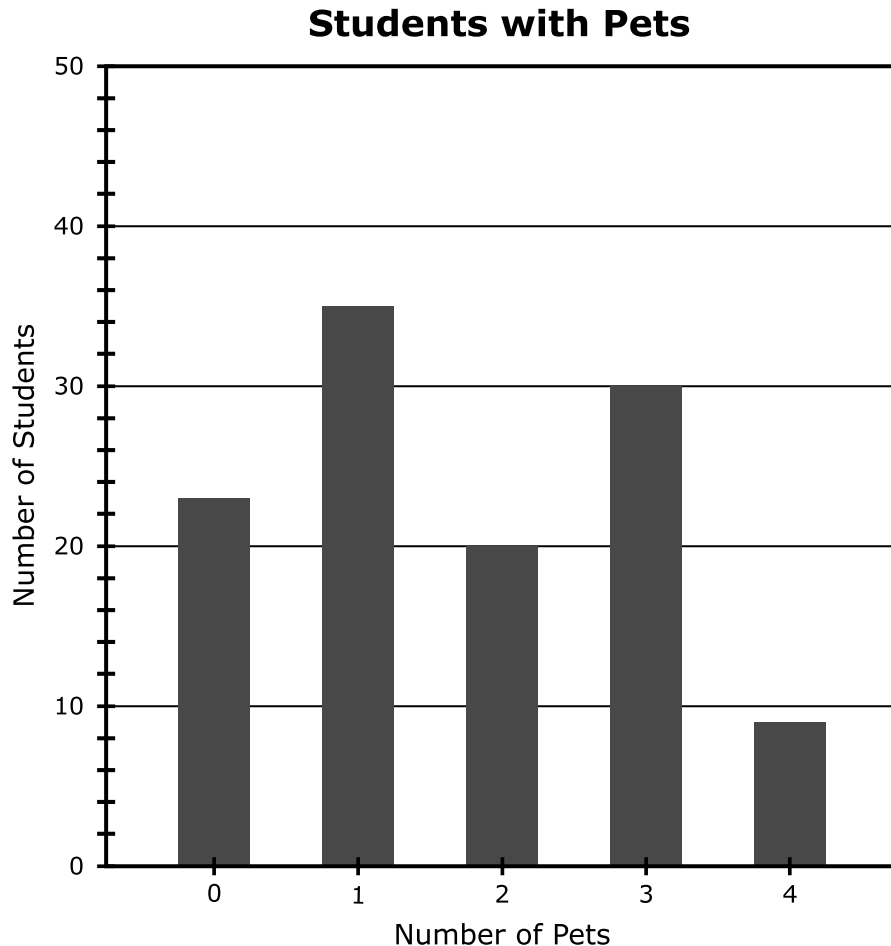


3.  **Part A**

How many of the students that responded have 2 pets?

Enter your answer in the box.

**Part B**

How many more students have 1 pet than students who have 3 pets? Explain your answer.

Enter your answer and explanation in the space provided.

**GO ON ▶**

**Part C**

Find the total number of pets the fourth-grade students have.

- Explain how you used the bar graph to solve the problem.
- Show your work using equations.

Enter your explanation, your work, and the total number of pets in the space provided.

**GO ON ▶**

**4.** Select the **three** choices that are factor pairs for the number 28.

   **A.** 1 and 28

   **B.** 2 and 14

   **C.** 3 and 9

   **D.** 4 and 7

   **E.** 6 and 5

   **F.** 8 and 3

**5.** Which pairs of fractions show a correct comparison?

Select the **two** correct answers.

   **A.** $\dfrac{2}{5} = \dfrac{40}{100}$

   **B.** $\dfrac{2}{5} > \dfrac{6}{9}$

   **C.** $\dfrac{2}{5} > \dfrac{2}{3}$

   **D.** $\dfrac{3}{5} < \dfrac{8}{12}$

   **E.** $\dfrac{3}{5} > \dfrac{2}{3}$

   **F.** $\dfrac{3}{5} = \dfrac{98}{100}$

**GO ON ▶**

**6.** Which numbers make the comparison true?

$$27{,}768 < \boxed{\phantom{0}}$$

Select the **two** correct answers.

**A.** 27,759

**B.** 28,744

**C.** 26,773

**D.** 27,568

**E.** 27,836

**7.** **Part A**

Alex ran 0.5 mile.

What number should replace the ? to make a fraction equivalent to 0.5?

$$\frac{?}{10}$$

Enter your answer in the box.

**Part B**

Christy ran $\frac{4}{10}$ mile on Monday and $\frac{7}{100}$ mile on Tuesday. She said that she ran a total of $\frac{47}{100}$ mile. Christy told Alex that she ran a greater distance than he ran, because 47 is more than 5.

- Identify the incorrect reasoning in Christy's statement.
- Explain how Christy can correct her reasoning.
- Use >, <, or = to give a correct comparison between the distances that Alex and Christy ran.

Enter your explanation and the correct comparison in the space provided.

**GO ON ▶**

Use the information provided to answer Part A and Part B for question 8.

Each student in a class chose one sport to play. The table shows the fractions of all students who chose each sport.

| Sport | Fraction of All Students |
|---|---|
| soccer | $\frac{3}{10}$ |
| football | $\frac{2}{10}$ |
| hockey | $\frac{1}{10}$ |
| basketball | $\frac{4}{10}$ |

**8.  Part A**

Which equation can be used to find $s$, the fraction of all students that chose to play either soccer or basketball?

**A.** $\frac{3}{10} + \frac{4}{10} = s$

**B.** $\frac{2}{10} - \frac{1}{10} = s$

**C.** $\frac{4}{10} + \frac{2}{10} = s$

**D.** $\frac{4}{10} - \frac{3}{10} = s$

**GO ON ▶**

**Part B**

What fraction of all the students chose to play either soccer or basketball?

A. $\frac{1}{10}$

B. $\frac{3}{10}$

C. $\frac{6}{10}$

D. $\frac{7}{10}$

**9.** Enter your answer in the box.

$522 \div 9 =$

**GO ON** ▶

**10.** The value of the digit 4 in the number 42,780 is 10 times the value of the digit 4 in which number?

    **A.** 34,651

    **B.** 146,703

    **C.** 426,135

    **D.** 510,400

**11.** The table shows the number of yards Ed ran in each of the first three football games of the season.

**Ed's Running Yards**

| Game | Yards |
|------|-------|
| 1 | 157 |
| 2 | 309 |
| 3 | 172 |

After the first three games of the season, Rico had exactly 3 times the total number of running yards that Ed had.

How many **more** total running yards did Rico have than Ed after the first three games of the season? Show your work using equations.

Enter your answer and your work in the space provided.

**12.** Enter your answer in the box.

5,314 − 4,983 =

STOP

# Unit 2

**Directions:**

Today, you will take Unit 2 of the Grade 4 Mathematics Practice Test. You will not be able to use a calculator.

Read each question. Then, follow the directions to answer each question. Mark your answers by completely filling in the circles in your answer document. Do not make any pencil marks outside of the circles. If you need to change an answer, be sure to erase your first answer completely. If a question asks you to show or explain your work, you must do so to receive full credit. Only responses written within the provided space will be scored.

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**GO ON ▶**

**Directions for Completing the Answer Grids**

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5. Do not fill in a circle under an unused box.

6. Fractions cannot be entered into an answer grid and will not be scored. Enter fractions as decimals.

7. See below for examples on how to correctly complete an answer grid.

**EXAMPLES**

To answer 632 in a question, fill in the answer grid as shown below.



To answer .75 in a question, fill in the answer grid as shown below.

15

**GO ON ▶**

**13.** Ryan makes 6 backpacks. He uses $\frac{3}{4}$ yard of cloth to make each backpack. What is the total amount of cloth, in yards, Ryan uses to make all 6 backpacks?

**A.** $1\frac{1}{2}$

**B.** $2\frac{1}{4}$

**C.** $4\frac{1}{2}$

**D.** $6\frac{3}{4}$

**GO ON ▶**

Unit 2

Use the information provided to answer Part A and Part B for question 14.

Rachana has a set of 10 mugs. The set is made up of three different kinds of mugs.

- $\frac{1}{2}$ of the mugs have pictures on them.

- $\frac{2}{5}$ of the mugs have words on them.

- $\frac{1}{10}$ of the mugs have flowers on them.

**14. Part A**

Select the **three** number sentences that correctly compare two of these fractions.

A. $\frac{1}{2} < \frac{2}{5}$

B. $\frac{1}{2} > \frac{2}{5}$

C. $\frac{1}{2} < \frac{1}{10}$

D. $\frac{1}{2} > \frac{1}{10}$

E. $\frac{1}{10} < \frac{2}{5}$

F. $\frac{1}{10} > \frac{2}{5}$

**GO ON ▶**

**Part B**

Which fraction is equal to $\frac{2}{5}$?

**A.**  $\frac{1}{10}$

**B.**  $\frac{2}{10}$

**C.**  $\frac{4}{10}$

**D.**  $\frac{5}{10}$

**GO ON ▶**

**15.** Which angle has a measure of 65°?

You can use a protractor to help you find the answer.

**A.**



**B.**



**C.**



**D.**

**GO ON ▶**
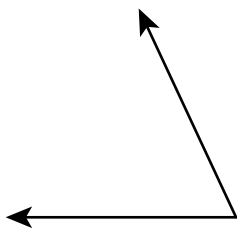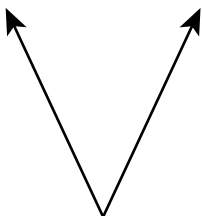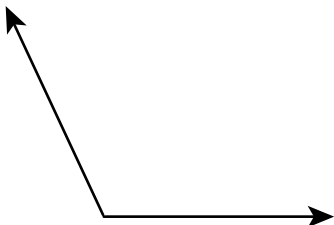
**16.** Which **three** comparisons are correct?

**A.** 0.4 meter > 0.04 meter

**B.** 0.04 meter > 0.3 meter

**C.** 0.3 meter < 0.5 meter

**D.** 0.5 meter > 0.65 meter

**E.** 0.65 meter > 0.61 meter

**F.** 0.65 meter < 0.04 meter

**17.** A basketball team scored a total of 747 points for the season. This was 9 times the number of points scored in the first game. How many points were scored during the first game?

**A.** 73

**B.** 75

**C.** 82

**D.** 83

**GO ON ▶**

Use the information provided to answer Part A and Part B for question 18.

Camille wants to make fruit drinks. The directions to make one drink include mixing $\frac{4}{8}$ cup of yogurt and 1 cup of ice with the amounts of each fruit shown.

- $\frac{5}{8}$ cup of banana slices

- $\frac{2}{8}$ cup of blueberries

**18. Part A**

Camille wants to make 6 drinks for her friends. How many total cups of blueberries and banana slices will she use to make the 6 drinks?

**A.** $\frac{7}{8}$

**B.** $\frac{12}{8}$

**C.** $\frac{30}{8}$

**D.** $\frac{42}{8}$

**Part B**

Next Camille will add the yogurt and ice. How many total cups of yogurt and ice will she use to make the 6 drinks? Show your work or explain your answer.

Enter your answer and work or explanation in the space provided.

**GO ON ▶**

Use the information provided to answer Part A and Part B for question 19.

The number of science fair projects entered for each grade in a city-wide science fair is shown.

## City-Wide Science Fair

| Grade | Number of Science Fair Projects |
|-------|--------------------------------|
| 3 | 462 |
| 4 | 759 |
| 5 | 891 |

**19. Part A**

The science fair projects are set up on tables. There are 99 long tables used. Each long table holds 7 projects. The rest of the projects are set up on short tables. Each short table can hold 4 projects. What is the **fewest** number of short tables that will be needed for the rest of the projects?

**A.** 202

**B.** 203

**C.** 354

**D.** 355

**Part B**

The science fair judges will be science teachers and volunteers. Each judge will only have time to view 5 science fair projects. There are 133 science teachers. What is the **fewest** number of volunteers needed to have enough judges for all of the projects?

**A.** 290

**B.** 396

**C.** 422

**D.** 423

**GO ON ▶**

**20.** Which **two** equations represent the statement "48 is 6 times as many as 8"?

Select the **two** correct answers.

**A.** $48 = 6 + 8$

**B.** $48 = 6 \times 8$

**C.** $48 = 6 \times 6$

**D.** $48 = 8 + 6$

**E.** $48 = 8 \times 6$

**21.** Ten numbers are shown in the box.

| | | | | |
|---|---|---|---|---|
| 1 | 2 | 4 | 8 | 20 |
| 24 | 36 | 58 | 64 | 80 |

Which list includes all the multiples of 8 that are shown in the box?
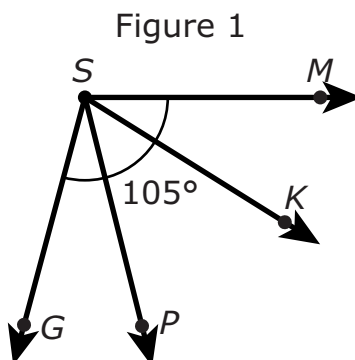
**A.** 8, 58, 80

**B.** 1, 2, 4, 8

**C.** 8, 24, 64, 80

**D.** 1, 8, 24, 64, 80

**GO ON ▶**

Use the information provided to answer Part A and Part B for question 22.

Two figures are shown. In Figure 1, the measure of angle *MSG* is 105°.

Figure 1

The measures of angle *MSK*, angle *KSP*, and angle *PSG* are shown in Figure 2. The measure of angle *MSG* is still 105°.

Figure 2
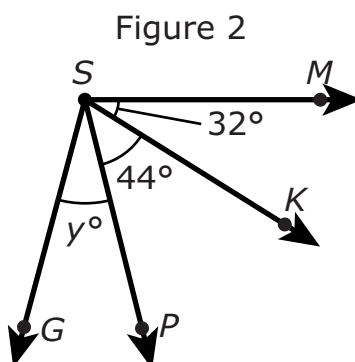


**22. Part A**

Which equation can be used to find the value of *y*?

**A.** $y - 44 - 32 = 105$

**B.** $y \times 44 \times 32 = 105$

**C.** $y \div 44 \div 32 = 105$

**D.** $y + 44 + 32 = 105$

**Part B**

What is the value of *y*?

25

STOP

# Unit 3

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## EXAMPLES

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To answer .75 in a question, fill in the answer grid as shown below.

**GO ON ▶**

**23.** Hayley has 272 beads. She buys 38 more beads. She will use 89 beads to make bracelets and the rest to make necklaces. She will use 9 beads for each necklace.

What is the **greatest** number of necklaces Hayley can make?

Enter your answer in the box.

**24. Part A**

Shaun plotted a point on the number line by drawing 5 equally spaced marks between 0 and 1 and placing a point on the third mark. He claims that the point represents the fraction $\frac{3}{5}$ because each mark represents $\frac{1}{5}$, so the third mark represents $\frac{3}{5}$.
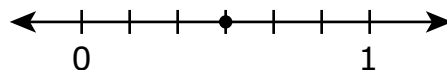


- Explain why Shaun's reasoning is incorrect.
- Explain how you can use the number line to determine the fraction that Shaun's point represents.
- Determine the fraction that Shaun's point represents.

Enter your explanations and your answer in the space provided.

**Part B**

Shaun wants to write a fraction that is equivalent to the fraction $\frac{2}{3}$.

Describe how Shaun can find a fraction that is equivalent to $\frac{2}{3}$.

Enter your description in the space provided.

**GO ON** ▶

**25.** Which statement about angles is true?

**A.** An angle is formed by two rays that do not have the same endpoint.

**B.** An angle that turns through $\frac{1}{360}$ of a circle has a measure of 360 degrees.

**C.** An angle that turns through five 1-degree angles has a measure of 5 degrees.

**D.** An angle measure is equal to the total length of the two rays that form the angle.

**Unit 3**

**GO ON** ▶

**26.** The rectangle is divided into eight equal sections.
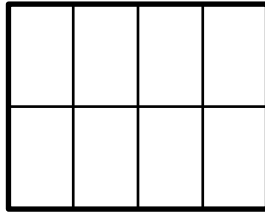


Jodi colors 4 sections. Then she colors 3 more sections.

Which **two** of these represent the fraction of the rectangle that Jodi colors in all?

Select the **two** correct answers.

**A.**  $\frac{4}{8} + \frac{3}{8}$

**B.**  $4 + 3$

**C.**  $\frac{8}{4} + \frac{8}{3}$

**D.**  $\frac{1}{8} + 3$

**E.**  $\frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$

**GO ON ▶**

Use the information provided to answer Part A and Part B for question 27.

Jian's family sells honey from beehives. They collected 3,311 ounces of honey from the beehives this season. They will use the honey to completely fill 4-ounce jars or 6-ounce jars.

Jian's family will sell 4-ounce jars for $5 each or 6-ounce jars for $8 each.

Jian says if they use only 4-ounce jars, they could make $4,140 because 3,311 ÷ 4 = 827 R 3. That rounds up to 828, and 828 multiplied by $5 is $4,140.

**27. Part A**

Explain the error that Jian made when finding the amount of money his family could make if they use only 4-ounce jars.

Enter your explanation in the space provided.

**Part B**

Explain how to determine the money Jian's family could make if they use only 6-ounce jars. Include the total amount of money and the total number of 6-ounce jars in your explanation.

Enter your answers and your explanation in the space provided.

**28.** The length of a desktop is 4 feet. How many inches is the length of the desktop?

Enter your answer in the box.

**29.** Mr. Kowolski ordered 35 boxes of granola bars. Each box contained 24 granola bars.

What is the total number of granola bars Mr. Kowolski ordered?

Enter your answer in the box.

Unit 3

**GO ON ▶**

**30. Part A**

Sean buys 5 packages of fish. There is $\frac{7}{8}$ pound of fish in each package. What is the total weight, in pounds, of fish that Sean buys?

**A.** $1\frac{2}{8}$

**B.** $1\frac{4}{8}$

**C.** $3\frac{5}{8}$

**D.** $4\frac{3}{8}$

**Part B**

Sean cooks 1 package of the fish. He eats $\frac{3}{8}$ pound of the fish from the package.

What is the total weight, in pounds, of the cooked fish that is left after Sean eats $\frac{3}{8}$ pound?

**A.** $\frac{2}{8}$

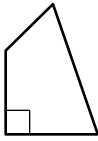**B.** $\frac{3}{8}$

**C.** $\frac{4}{8}$

**D.** $\frac{5}{8}$

**GO ON ▶**

Unit 3

**31.** Which **three** shapes appear to have at least two parallel sides?

    **A.**



    **B.**



    **C.**
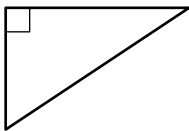


    **D.**
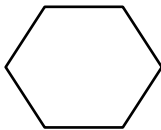


    **E.**
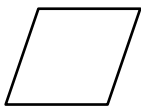
**Unit 3**

**STOP**

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. | **12** | 4.MD.3 |
| 2. | **21,894** | 4.NBT.5-1 |
| 3. | Part A: **20**<br>Part B: see rubric<br>Part C: see rubric | 4.D.2/3.MD.3 |
| 4. | **A, B, D** | 4.OA.4-1 |
| 5. | **A, D** | 4.NF.2-1 |
| 6. | **B, E** | 4.NBT.2 |
| 7. | Part A: **5**<br>Part B: see rubric | 4.C.5-5/4.NF.7 |
| 8. | Part A: **A**<br>Part B: **D** | 4.NF.3d |

| | | |
|---|---|---|
| 9. | **58** | 4.NBT.6-1 |
| 10. | **A** | 4.NBT.1 |
| 11. | See rubric | 4.D.1/4.OA.2 |
| 12. | **331** | 4.NBT.4-2 |

## Unit 2

| Item Number | Answer Key | Evidence Statement Key/Content Scope |
|---|---|---|
| 13. | **C** | 4.NF.4c |
| 14. | Part A: **B, D, E**<br>Part B: **C** | 4.NF.A.Int.1 |
| 15. | **A** | 4.MD.6 |
| 16. | **A, C, E** | 4.NF.7 |
| 17. | **D** | 4.OA.2 |
| 18. | Part A: **D**<br>Part B: see rubric | 4.D.1/4.NF.3d and 4.NF.4c |
| 19. | Part A: **D**<br>Part B: **A** | 4.OA.3-2 |
| 20. | **B, E** | 4.OA.1-2 |
| 21. | **C** | 4.OA.4-3 |
| 22. | Part A: **D**<br>Part B: **29** | 4.MD.7 |

## Unit 3

| Item Number | Answer Key | Evidence Statement Key/Content Scope |
|---|---|---|
| 23. | **24** | 4.OA.3-2 |
| 24. | Part A: see rubric<br>Part B: see rubric | 4.C.5-6 |

| 25. | C | 4.MD.5 |
|---|---|---|
| 26. | **A, E** | 4.NF.3a |
| 27. | Part A: see rubric<br>Part B: see rubric | 4.C.5-1/4.OA.3 |
| 28. | **48** | 4.MD.1 |
| 29. | **840** | 4.Int.2 |
| 30. | Part A: **D**<br>Part B: **C** | 4.NF.Int.1 |
| 31. | **B, D, E** | 4.G.2 |

Rubrics start on the next page.

| Unit 1 #3 Rubric Part A | |
|---|---|
| **Score** | **Description** |
| **1** | Computation component: Student enters 20. |
| **0** | Student response is incorrect or irrelevant. |

| Unit 1 #3 Rubric Part B | |
|---|---|
| **Score** | **Description** |
| **2** | Student response includes each of the following 2 elements.<br>• Computation component: 5 students<br>• Modeling component: Student explains how to use the bar graph to determine how many more students have 1 pet than 3 pets.<br><br>Sample Student Response:<br><br>I looked at the height of the bar to find the number of students with one pet and saw it was 35. Then I looked at the height of the bar to find the number of students with 3 pets and saw it was 30. I subtracted 30 from 35 and got 5. So, there are 5 more students who have 1 pet than 3 pets.<br><br>Note: A variety of explanations are valid, as long as it is clear that the student understands how to use the bar graph to answer the question. |
| **1** | Student response includes 1 of the 2 elements. If a computation mistake is made, credit cannot be given for the computation component, but 1 point can be given for stating a correct process in the explanation. |
| **0** | Student response is incorrect or irrelevant. |

| Unit 1 #3 Rubric Part C | |
|---|---|
| **Score** | **Description** |
| **3** | Student response includes each of the following 3 elements.<br>• Computation component: 201<br>• Modeling component: Student explains how to use the bar graph to solve the problem.<br>• Modeling component: Students shows work using equations.<br><br>Sample Student Response:<br><br>I read the height of each bar to know how many students had 1 pet, |

2 pets, 3 pets, or 4 pets. I determined how many pets each bar shows by multiplying the number of students by the number of pets for each bar. Adding the numbers of pets for all the bars gives the total.

35 students have 1 pet    $1 \times 35 = 35$ pets
20 students have 2 pets    $2 \times 20 = 40$ pets
30 students have 3 pets    $3 \times 30 = 90$ pets
9 students have 4 pets    $4 \times 9 = 36$ pets

$35 + 40 + 90 + 36 = 201$ total pets

Note: A variety of explanations are valid as long as it is clear that the student understands how to use the bar graph to answer the question and shows work using equations.

| | |
|---|---|
| **2** | Student response includes 2 of the 3 elements. If a computation mistake is made, credit cannot be given for the computation component, but points can be given for modeling. |
| **1** | Student response includes 1 of the 3 elements. |
| **0** | Student response is incorrect or irrelevant. |

| Unit 1 #7 Rubric Part A | |
|---|---|
| **Score** | **Description** |
| **1** | Computation component: Student enters 5. |
| **0** | Student response is incorrect or irrelevant. |

| Unit 1 #7 Rubric Part B | |
|---|---|
| **Score** | **Description** |
| **2** | Student response includes each of the following 2 elements.<br>• Reasoning component: Student identifies Christy's incorrect reasoning.<br>• Reasoning component: Student gives a valid explanation of how to correct the reasoning and provides a correct comparison.<br><br>Sample Student Responses:<br><br>Christy found the correct total distance of her runs, but her comparison is wrong. 0.5 is $\frac{5}{10}$ which equals $\frac{50}{100}$ so she should compare 47 to 50, not 5. |

| | 50 is greater than 47, so $\frac{5}{10} > \frac{47}{100}$. <br><br> OR <br><br> Christy's distance $\frac{47}{100} = 0.47$ and Alex ran 0.5 mile, so she should compare 0.5 to 0.47. The 5 in tenths place in 0.5 has a greater value than the 4 in the tenths place in 0.47. <br><br> Note: Other valid explanations are acceptable. |
|---|---|
| **1** | Student response includes 1 of the 2 elements. |
| **0** | Student response is incorrect or irrelevant. |

| Unit 1 #11 Rubric | |
|---|---|
| **Score** | **Description** |
| **3** | Student response includes each of the following 3 elements. <br> • Computation component: Rico had 1276 more yards than Ed after the first three games. <br> • Modeling component: Student shows work or explains how to determine the number of yards that Ed had and Rico had after the 3 games. <br> • Modeling component: Student shows work or explains how to determine how many more yards Rico had than Ed. <br><br> Sample Student Response: <br><br> I found that Ed had 638 yards by adding 157 + 308 + 172. <br> Rico had 3 times the number of yards as Ed, so 638 × 3 = 1914. <br> To find how many more yards Rico had than Ed, I subtracted 638 from 1914 and got 1276. <br><br> Note: A variety of explanations are valid as long as the student uses a mathematically correct approach to solving the problem. |
| **2** | Student response includes 2 of the 3 elements. If a computation mistake is made, credit cannot be given for the computation component, but points can be given for modeling. |
| **1** | Student response includes 1 of the 3 elements. |
| **0** | Student response is incorrect or irrelevant. |

| Unit 2 #18 Rubric Part A |
|---|
| **Score** | **Description** |

| 1 | Computation component: Student selects D. |
|---|---|
| 0 | Student response is incorrect or irrelevant. |

| Unit 2 #18 Rubric Part B | |
|---|---|
| **Score** | **Description** |
| 2 | Student response includes the following element.<br><br>• Modeling component: Valid work or explanation with an answer of 9 is provided.<br><br>Sample Student Response:<br><br>First I added to find the total number of cups of yogurt and ice.<br>$\frac{4}{8} + 1 = 1\frac{4}{8}$<br>Then I multiplied by 6 drinks.<br>$6 \times \frac{12}{8} = \frac{72}{8} = 9$<br>She uses a total of 9 cups of yogurt and ice.<br><br>Note: Other explanations are valid. For example, the student might multiply $\frac{4}{8}$ by 6 and 1 by 6 and then find the sum of the products. |
| 1 | Student response provides a correct answer of 9; however, an insufficient explanation or insufficient work is shown to support the answer.  Or, a valid explanation or valid work is shown; however, a computation error is made which results in an incorrect answer. |
| 0 | Student response is incorrect or irrelevant. |

| Unit 3 #24 Rubric Part A | |
|---|---|
| **Score** | **Description** |
| 3 | Student response includes each of the following 3 elements.<br><br>• Reasoning component: Explanation of why Shaun's reasoning is incorrect<br>• Reasoning component: Explanation on how to use the number line to determine the fraction that Shaun's point represents<br>• Computation component: $\frac{3}{6}$<br><br>Sample Student Response:<br><br>Shaun's reasoning is incorrect because he drew 5 lines between 0 and 1 and said that this divided the line into fifths. This actually |

| | divides the line into sixths because there are six equal sections between 0 and 1. Shaun's point represents the fraction $\frac{3}{6}$ because each mark on the number line is $\frac{1}{6}$. So, the third mark is the point $\frac{3}{6}$. |
|---|---|
| **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. |

| Unit 3 #24 Rubric Part B | |
|---|---|
| **Score** | **Description** |
| **1** | Student response includes the following element.<br>• Reasoning component: Describes a process to find a fraction equivalent to $\frac{2}{3}$<br><br>Sample Student Response:<br><br>I can find a fraction equivalent to $\frac{2}{3}$ by multiplying the numerator (2) and denominator (3) by the same number.<br><br>Note: Other strategies are valid such as showing that another fraction is the same position on a number line. |
| **0** | Student response is incorrect or irrelevant. |

| Unit 3 #27 Rubric Part A | |
|---|---|
| **Score** | **Description** |
| **1** | Reasoning component:  The student explains the error made.  For example: "Jian rounded the quotient up, but that won't work because the remainder of 3 means there are only 3 ounces of honey left, and that isn't enough to fill the last jar."<br><br>Note: A variety of explanations are possible. As long as the explanation shows a clear understanding of the error made, credit should be awarded. |
| **0** | Student response is incorrect or irrelevant. |
| Unit 3 #27 Rubric Part B | |
| **Score** | **Description** |
| **2** | Student response includes each of the following 2 elements. |

| | |
|---|---|
| | • Computation component: 551 (6-ounce) jars and $4,408<br>• Reasoning component: The student explains the steps needed to solve the problem, including correctly interpreting the remainder. For example: "I would divide 3,311 by 6 and get a quotient of 551, with a remainder of 5. This means they could completely fill 551 jars, but the leftover honey wouldn't be enough to fill another jar. I multiplied 551 × $8 and got $4,408. " |
| **1** | Student response includes 1 of the 2 elements. If a computation mistake is made, credit cannot be given for the computation component, but points can be given for valid reasoning. |
| **0** | Student response is incorrect or irrelevant. |