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.

```
6 3 2
0 0 0 0 0
0 0 0 0 0
0 0 0 0 0
0 0 0 0 0
0 0 0 0 0
0 0 0 0 0
0 0 0 0 0
```

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

```
. 7 5
0 0 0 0 0
0 0 0 0 0
0 0 0 0 0
0 0 0 0 0
0 0 0 0 0
0 0 0 0 0
0 0 0 0 0
```

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.

What is the length, in feet, of the sandbox?
Enter your answer in the box.
Use the information provided to answer Part A and Part B for question 2.

Jordan places two boards end to end to make one shelf. The first board is $\frac{47}{100}$ meter long. The second board is $\frac{5}{10}$ meter long.

2. Part A

What fraction is equivalent to $\frac{5}{10}$ and has a denominator of 100?

A. $\frac{5}{100}$

B. $\frac{50}{100}$

C. $\frac{105}{100}$

D. $\frac{150}{100}$

Part B

What is the total length, in meters, of the two boards?

A. $9\frac{7}{10}$

B. $5\frac{2}{10}$

C. $\frac{97}{100}$

D. $\frac{52}{100}$

3. Enter your answer in the box.

$3,649 \times 6 =$
Use the information provided to answer Part A through Part C for question 4.

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.

4. **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.
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.

5. 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
6. Which pairs of fractions show a correct comparison?
   Select the two correct answers.
   
   A. \( \frac{2}{5} = \frac{40}{100} \)
   
   B. \( \frac{2}{5} > \frac{6}{9} \)
   
   C. \( \frac{2}{5} > \frac{2}{3} \)
   
   D. \( \frac{3}{5} < \frac{8}{12} \)
   
   E. \( \frac{3}{5} > \frac{2}{3} \)
   
   F. \( \frac{3}{5} = \frac{98}{100} \)

7. Which numbers make the comparison true?

   \( 27,768 < \square \)

   Select the two correct answers.
   
   A. 27,759
   
   B. 28,744
   
   C. 26,773
   
   D. 27,568
   
   E. 27,836
8. **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.

9. Enter your answer in the box.

\[3,950 + 405 = \]
Use the information provided to answer Part A and Part B for question 10.

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

<table>
<thead>
<tr>
<th>Sport</th>
<th>Fraction of All Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>soccer</td>
<td>$\frac{3}{10}$</td>
</tr>
<tr>
<td>football</td>
<td>$\frac{2}{10}$</td>
</tr>
<tr>
<td>hockey</td>
<td>$\frac{1}{10}$</td>
</tr>
<tr>
<td>basketball</td>
<td>$\frac{4}{10}$</td>
</tr>
</tbody>
</table>

10. 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. $\frac{4}{10} - \frac{3}{10} = s$
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.  $\frac{7}{10}$

11. Which expression is equivalent to $6 \times \frac{2}{3}$?

A.  $12 \times \frac{1}{2}$

B.  $12 \times \frac{1}{3}$

C.  $6 \times \frac{1}{3}$

D.  $3 \times \frac{2}{3}$
You have come to the end of Unit 1 of the test.

- Review your answers from Unit 1 only.
- Then, close your test booklet and answer document and raise your hand to turn in your test materials.
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.

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.

```
  6 3 2
 0 0 0 0 0 0
 0 0 0 0 0 0
 0 0 0 0 0 0
```

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

```
  . 7 5
 0 0 0 0 0 0
 0 0 0 0 0 0
 0 0 0 0 0 0
```
12. Enter your answer in the box.

\[ 522 \div 9 = \]

13. 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

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

<table>
<thead>
<tr>
<th>Game</th>
<th>Yards</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>157</td>
</tr>
<tr>
<td>2</td>
<td>309</td>
</tr>
<tr>
<td>3</td>
<td>172</td>
</tr>
</tbody>
</table>

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.
15. Enter your answer in the box.
   \[ 5,314 - 4,983 = \]

16. 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. \( 6 \frac{3}{4} \)
Use the information provided to answer Part A and Part B for question 17.

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.

17. 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. \( \frac{1}{10} > \frac{2}{5} \)
Part B

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

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

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

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

D. $\frac{5}{10}$
18. The point on the number line shows the value of the sum of two fractions.

Which expression has the same sum?

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

B. $\frac{6}{4} + \frac{2}{4}$

C. $\frac{5}{6} + \frac{3}{6}$

D. $\frac{2}{12} + \frac{6}{12}$
19. Which angle has a measure of 65°?

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

A. 

B. 

C. 

D. 

GO ON
Use the information provided to answer Part A and Part B for question 20.

The model shows a hallway in Clark’s house.

20. Part A

The perimeter of the hallway is $10 \frac{4}{10}$ meters.

What is the width, in meters, of the hallway?

A. $1 \frac{3}{10}$

B. $2 \frac{6}{10}$

C. $6 \frac{5}{10}$

D. $7 \frac{5}{10}$
Part B

Clark’s family adds a closet that shortens the length of the hallway by \( \frac{6}{10} \) meter.

What is the new perimeter, in meters, of the hallway?

A. \( 3 \frac{3}{10} \)

B. \( 6 \frac{6}{10} \)

C. \( 9 \frac{2}{10} \)

D. \( 9 \frac{8}{10} \)
You have come to the end of Unit 2 of the test.

- Review your answers from Unit 2 only.
- Then, close your test booklet and answer document and raise your hand to turn in your test materials.
Unit 3

Directions:
Today, you will take Unit 3 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.

```
6 3 2
0 0 0 0 0
0 0 0 0 0
0 0 0 0 0
1 1 1 1 1
2 2 2 2 2
3 3 3 3 3
3 3 3 3 3
3 3 3 3 3
2 2 2 2 2
1 1 1 1 1
0 0 0 0 0
```

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

```
.7 5
0 0 0 0 0
0 0 0 0 0
0 0 0 0 0
0 0 0 0 0
0 0 0 0 0
0 0 0 0 0
0 0 0 0 0
0 0 0 0 0
0 0 0 0 0
0 0 0 0 0
```

GO ON ▶
21. 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

22. 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
Use the information provided to answer Part A and Part B for question 23.

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

23. **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.
Use the information provided to answer Part A and Part B for question 24.

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

<table>
<thead>
<tr>
<th>Grade</th>
<th>Number of Science Fair Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>462</td>
</tr>
<tr>
<td>4</td>
<td>759</td>
</tr>
<tr>
<td>5</td>
<td>891</td>
</tr>
</tbody>
</table>

24. 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
25. 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. \[ 48 = 8 \times 6 \]
Use the information provided to answer Part A and Part B for question 26.

Martin cut a pan of corn bread into equal pieces as shown in the model.

26. Part A

Martin gave \( \frac{1}{3} \) of the corn bread to his neighbor.

Explain how you can use the model to show \( \frac{1}{3} \). Then write a fraction that is equivalent to \( \frac{1}{3} \).

Enter your explanation and your answer in the space provided.

Part B

Martin gave \( \frac{6}{12} \) of the corn bread to his teacher.

Write a comparison using <, >, or = to compare the fractions \( \frac{1}{3} \) and \( \frac{6}{12} \). Explain how the model can be used to compare these fractions.

Enter your comparison and your explanation in the space provided.
27. Ten numbers are shown in the box.

\[
\begin{array}{cccc}
1 & 2 & 4 & 8 \\
20 & 24 & 36 & 58 \\
64 & 80 & & \\
\end{array}
\]

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
You have come to the end of Unit 3 of the test.

- Review your answers from Unit 3 only.
- Then, close your test booklet and answer document and raise your hand to turn in your test materials.
Unit 4

Directions:
Today, you will take Unit 4 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.
28. Enter your answer in the box.

\[ 7,564 + 8,239 = \]
Use the information provided to answer Part A and Part B for question 29.

Two figures are shown. In Figure 1, the measure of angle $MSG$ is $105^\circ$.

![Figure 1](image)

The measures of angle $MSK$, angle $KSP$, and angle $PSG$ are shown in Figure 2. The measure of angle $MSG$ is still $105^\circ$.

![Figure 2](image)

29. 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 $y$?

39
30. 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.

31. 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.
32. 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.
33. 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. \( \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} \)
Use the information provided to answer Part A and Part B for question 34.

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 $3,311 \div 4 = 827 \text{ R } 3$. That rounds up to 828, and 828 multiplied by $5$ is $4,140$.

34. 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.

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

Enter your answer in the box.

36. 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.
37. 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. \( \frac{5}{8} \)
38. Which **three** shapes appear to have at least two parallel sides?

A. 

B. 

C. 

D. 

E. 

39. The Amazon River is about 6,516 kilometers long.

The Mississippi River is about 3,775 kilometers long.

What is the difference, in kilometers, between these two lengths?

Enter your answer in the box.
You have come to the end of Unit 4 of the test.

- Review your answers from Unit 4 only.
- Then, close your test booklet and answer document and raise your hand to turn in your test materials.
4 - MTH