



**NEW MEXICO MEASURES  
OF STUDENT SUCCESS AND  
ACHIEVEMENT**

**M**

**S**

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**A**

**NM-MSSA**

**Mathematics**

**Grade 4 · Practice Test**



**PLACE STUDENT  
LABEL HERE**



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# Mathematics Session 1

## DIRECTIONS

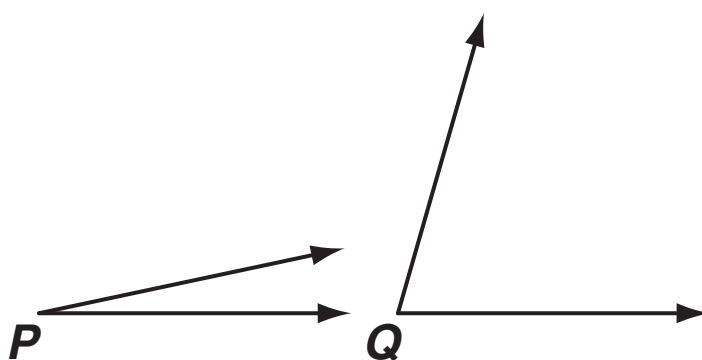
Today you will take a test in mathematics. For this test, you will answer selected-response and constructed-response questions. Some of the questions may look different from test questions you have seen before, and some may ask about material that is new to you, but it is important to do your best. If you are not sure of the answer to a question, you should still try to answer it

You may NOT use a calculator to answer the questions in this session.

1. There are 4 times as many fish as there are frogs in a pond. There are 32 fish.

Which statement is true?

- A There are 8 frogs because  $4 \times 8 = 32$ .
  - B There are 28 frogs because  $32 - 4 = 28$ .
  - C There are 36 frogs because  $4 + 32 = 36$ .
  - D There are 128 frogs because  $32 \times 4 = 128$ .
2. The measure of  $\angle P$  is  $12^\circ$ .



Which of these is the **best** estimate of the measure of  $\angle Q$ ?

- A  $48^\circ$
- B  $60^\circ$
- C  $74^\circ$
- D  $106^\circ$

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3. Lisa read for  $\frac{1}{4}$  of an hour.

Which equation can be used to find  $s$ , how many seconds Lisa read?

A  $15 \times \frac{1}{4} = s$

B  $60 \times \frac{1}{4} = s$

C  $15 \times 4 = s$

D  $60 \times 15 = s$

4. Which number is a prime number **and** a factor of 56?

A 7

B 5

C 4

D 3

5. Which fraction is equal to  $\frac{9}{12}$ ?

A  $\frac{3}{6}$

B  $\frac{5}{8}$

C  $\frac{2}{3}$

D  $\frac{3}{4}$

6. This subtraction problem is missing a digit.

$$\begin{array}{r} 8,\square 31 \\ -3,841 \\ \hline 4,390 \end{array}$$

Which digit belongs in the box to make the difference true?

A 1

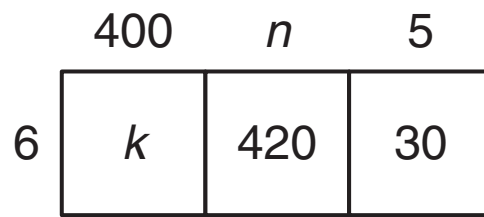
B 2

C 4

D 5

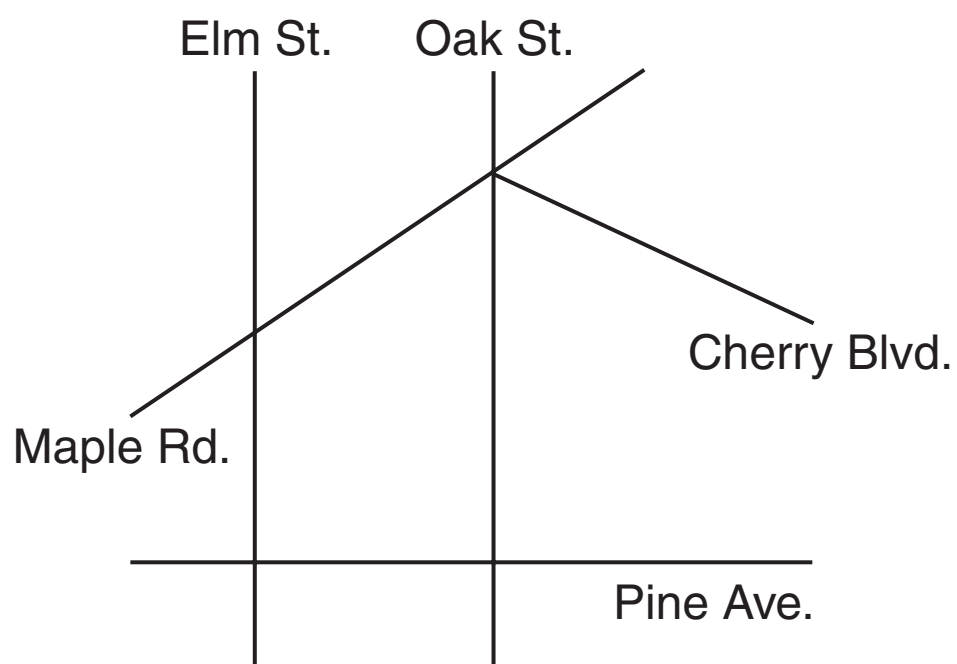
This question has two parts. Be sure to answer all parts of the question.

7. Macy made this model to help show the quotient of  $2,850 \div 6$ .



- a. What is the value of  $k$  in the model?
- b. What is the quotient of  $2,850 \div 6$ ? Explain how the model is used to find the answer.

8. A map with five roads is shown.



How many angles on the map appear to be acute angles?

- A 3
- B 4
- C 6
- D 8

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**1**

9. Sofia is solving this word problem.

Lincoln Elementary School has a mathematics club and a science club.

- There are 30 students in the clubs total.
- A student can only be in one club.
- Twice as many students are in the mathematics club as are in the science club.

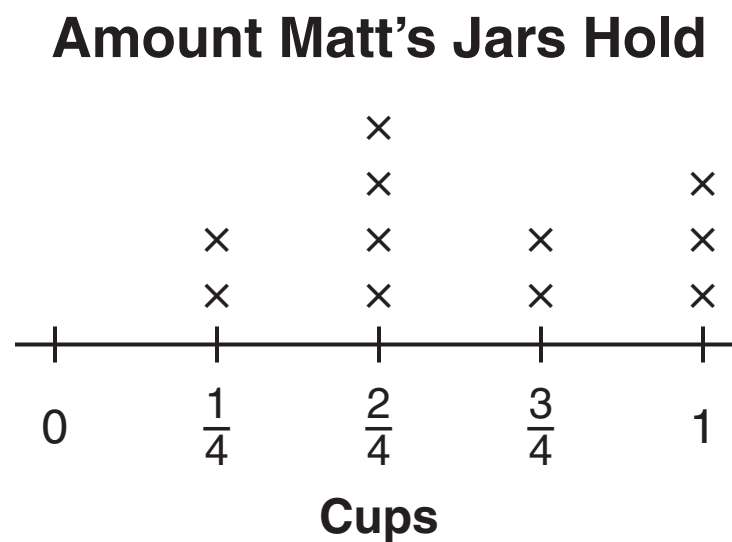
How many students are in the science club?

Which solution is correct?

- A** 10 because  $30 - 20 = 10$
- B** 15 because  $30 \div 2 = 15$
- C** 28 because  $30 - 2 = 28$
- D** 60 because  $30 \times 2 = 60$

Use the information below to answer questions 10 and 11.

This line plot shows the amount of water, in cups, that Matt's jars hold.



- 10.** Which equation shows the total amount of water, in cups, that can be put in all the jars that hold exactly  $\frac{1}{4}$  cup?

**A**  $\frac{1}{4} + \frac{1}{4} = \frac{2}{4}$

**B**  $1 + 1 + 1 = 3$

**C**  $\frac{3}{4} + \frac{3}{4} = \frac{6}{4} = 1\frac{2}{4}$

**D**  $\frac{2}{4} + \frac{2}{4} + \frac{2}{4} + \frac{2}{4} = \frac{8}{4} = 2$

- 11.** What is the difference between the amount of water the largest jars hold and the amount the smallest jars hold?

**A**  $\frac{1}{4}$  cup

**B**  $\frac{2}{4}$  cup

**C**  $\frac{3}{4}$  cup

**D** 1 cup



**12.** Jack used base-ten blocks to represent a number.

He used:

- 5 ones
- 3 thousands
- 20 tens

What number did Jack show?

- A** 3,025
- B** 3,205
- C** 5,005
- D** 5,320

**13.** Gary claims that he has listed all of the factors of 28 and 66, as shown.

- factors of 28: 1, 2, 3, 4, 14, 28
- factors of 66: 1, 2, 3, 4, 11, 22, 66

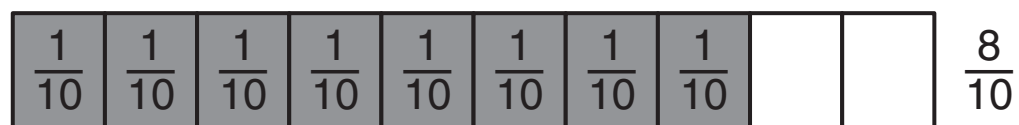
Which of the following describes the changes Gary needs to make to his lists to make his claim correct?

- A** add 7 to the list of the factors of 28 and add 33 to the list of the factors of 66
- B** remove 3 from the list of the factors of 28 and remove 4 from the list of the factors of 66
- C** add 7 and 21 and remove 4 from the list of the factors of 28; add 33 and remove 3 from the list of the factors of 66
- D** add 7 and remove 3 from the list of factors of 28; add 6 and 33 and remove 4 from the list of factors of 66

This question has two parts. Be sure to answer all parts of the question.

- 14.** The fourth-grade students at a school are having a pizza party. They need to know how much pizza the school should order for the party.
- There are 113 fourth-grade students.
  - Each student will get 2 slices of pizza.
  - Each pizza costs \$7.
  - There are 8 slices in each pizza.
- a. Write an equation that can be used to find  $s$ , the number of **slices** of pizza the school needs to order. Be sure to solve your equation.
- b. Write an equation that can be used to find  $p$ , the number of **pizzas** the school needs to order. Be sure to solve your equation. Explain how you found your answer.

- 15.** Two fraction models are shown.



Which statement is true?

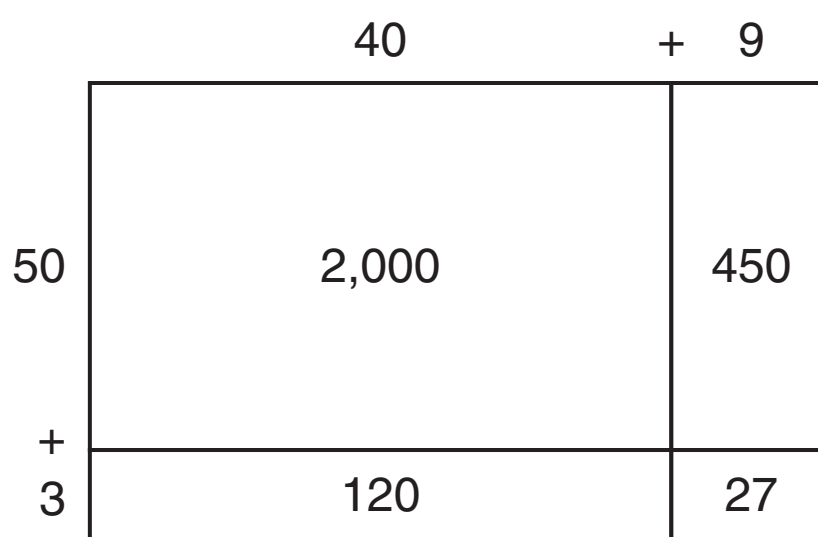
- A**  $\frac{7}{8} < \frac{8}{10}$  because there are a greater number of equal parts in the model for  $\frac{8}{10}$ .
- B**  $\frac{7}{8} < \frac{8}{10}$  because a greater number of parts of the whole model for  $\frac{8}{10}$  are shaded.
- C**  $\frac{7}{8} > \frac{8}{10}$  because a greater number of parts of the whole model for  $\frac{7}{8}$  are shaded.
- D**  $\frac{7}{8} > \frac{8}{10}$  because a greater part of the whole model for  $\frac{7}{8}$  is shaded.

- 16.** A store owner ordered 12 times as many small posters as large posters. She ordered 48 large posters.

How many small posters were ordered?

- A** 4
- B** 60
- C** 124
- D** 576

- 17.** An area model is shown.



Which of these is **not** represented in the area model?

- A**  $40 + 9$
- B**  $49 + 53$
- C**  $49 \times 53$
- D**  $50 \times 40$

- 18.** Tanya made a pattern. All the numbers in her pattern can be divided by 3 evenly.

Which could be Tanya's pattern?

- A** Starting number: 1  
Rule: Add 6.
- B** Starting number: 13  
Rule: Subtract 1.
- C** Starting number: 9  
Rule: Multiply by 2.
- D** Starting number: 12  
Rule: Divide by 3.





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# Mathematics Session 2

## DIRECTIONS



Today you will take a test in mathematics. For this test, you will answer selected-response and constructed-response questions. Some of the questions may look different from test questions you have seen before, and some may ask about material that is new to you, but it is important to do your best. If you are not sure of the answer to a question, you should still try to answer it.

You **MAY** use a calculator to answer the questions in this session.

19. Which sentence is true about all rhombuses?

- A Opposite sides must be parallel.
- B Opposite sides must be perpendicular.
- C All angles must be  $90^\circ$ .
- D All sides must be different lengths.

20. This table shows the distance Kim jumped on each of six jumps.

**Kim's Jump Distances**

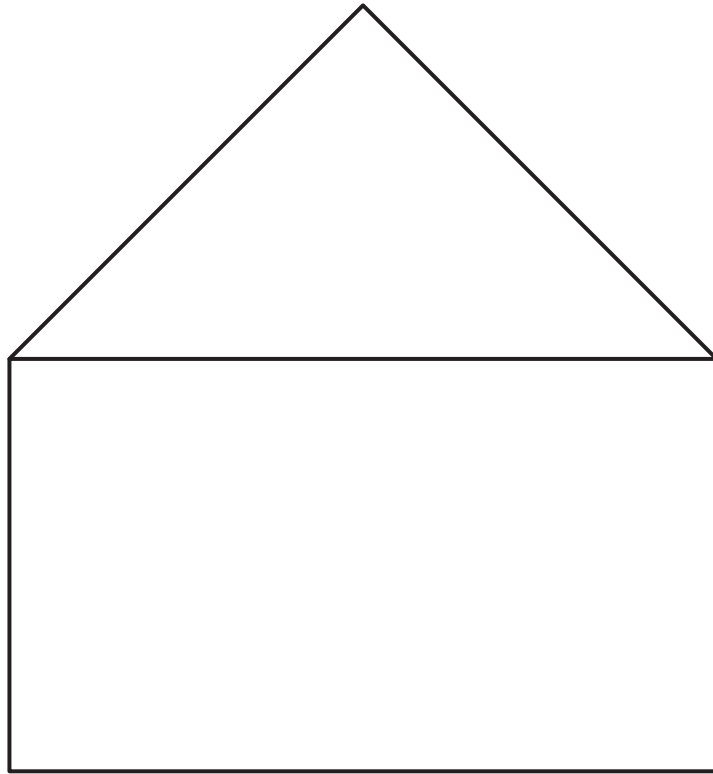
Jump	Distance (meters)
1	1.61
2	1.86
3	1.53
4	1.84
5	1.59
6	1.72

What is the shortest distance Kim jumped?

- A 1.59 meters
- B 1.61 meters
- C 1.86 meters
- D 1.53 meters

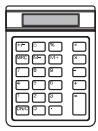


**21.** Charisse made this shape by tracing a rectangle and a right triangle.



How many right angles are shown in Charisse's shape?

- A** 2
- B** 4
- C** 5
- D** 7



- 22.** Josh walks 3 miles each week. This week he walks  $\frac{3}{8}$  of a mile on Monday,  $\frac{9}{8}$  of a mile on Wednesday, and  $\frac{5}{8}$  of a mile on Thursday.

Which equation can Josh use to find  $m$ , the fraction of a mile he needs to walk the rest of the week to walk a total of 3 miles?

**A**  $3 + \left(\frac{3}{8} + \frac{9}{8} + \frac{5}{8}\right) = m$

**B**  $3 - \left(\frac{3}{8} + \frac{9}{8} + \frac{5}{8}\right) = m$

**C**  $3 + \left(\frac{3}{8} - \frac{9}{8} - \frac{5}{8}\right) = m$

**D**  $3 - \left(\frac{3}{8} - \frac{9}{8} - \frac{5}{8}\right) = m$

- 23.** In which number is the value of the 4 equal to ten times the value of the 4 in 14,111?

**A** 111,141

**B** 111,411

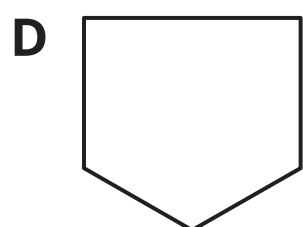
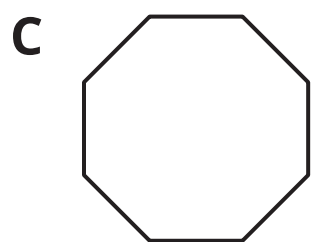
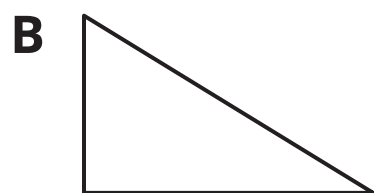
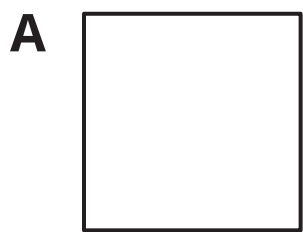
**C** 141,111

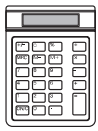
**D** 411,111





**24.** Select the **two** shapes that have the same number of lines of symmetry.





*This question has two parts. Be sure to answer all parts of the question.*

- 25.** Kennan ran 5 kilometers. He incorrectly stated that he ran a total of 500 centimeters.
- Why is Kennan's statement incorrect? Explain how you know.
  - How many centimeters are in 5 kilometers? Use words or numbers to explain your answer.
- 26.** Sylvia is painting a square-shaped wall. Each side of the wall has a length of 12 feet.

Which expression could be used to find the area of the wall?

- A**  $12 \times 12 \times 12 \times 12$
- B**  $12 \times 12$
- C**  $12 + 12 + 12 + 12$
- D**  $12 + 12$



- 27.** It takes Josh 24 minutes to walk from his house to the school. It takes him 8 minutes to walk from the school to the park.

How many times longer does it take him to walk from his house to the school than from the school to the park?

- A** 3  
**B** 16  
**C** 32  
**D** 192
- 28.** Four students are solving this problem.

The sum of two fractions is 2. The difference between the two fractions is  $\frac{1}{2}$ . What are the two fractions?

Alice says the fractions are  $\frac{4}{2}$  and  $\frac{1}{2}$  because  $\frac{4}{2} = 2$ .

Bob says the fractions are  $\frac{1}{4}$  and  $1\frac{3}{4}$  because the sum is 2.

Cora says the fractions are  $1\frac{3}{6}$  and  $\frac{6}{6}$  because the difference is  $\frac{1}{2}$ .

Darius says the fractions are  $1\frac{2}{8}$  and  $\frac{6}{8}$  because  $1 + \frac{2}{8} + \frac{6}{8} = 1 + 1$  and  $\frac{10}{8} - \frac{6}{8} = \frac{4}{8}$ .

Which child is correct?

- A** Alice  
**B** Bob  
**C** Cora  
**D** Darius

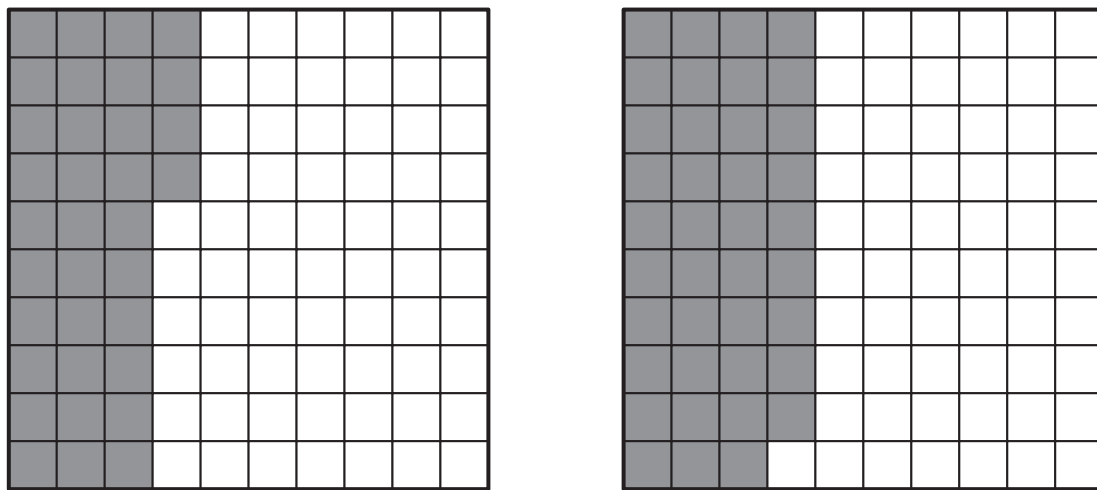




- 29.** Isla makes a pattern that starts at 5 and uses the rule “Multiply by 10.” Isla says that 550 will be a number in the pattern.

Which statement explains whether Isla is correct?

- A** She is incorrect because the last digit in each number is a 5.
  - B** She is incorrect because only the first digit in each number is a 5.
  - C** She is correct because all of the numbers have only 5s and 0s.
  - D** She is correct because all of the numbers after the starting number end in 0.
- 30.** The shaded parts of these models represent two decimals.



Which of these correctly compares the decimals shown in the models?

- A**  $0.34 < 0.39$
- B**  $0.43 < 0.34$
- C**  $0.49 > 0.94$
- D**  $0.34 > 0.39$



- 31.** Which numbers, when rounded to the nearest thousand, become 38,000? Select the **two** correct answers.
- A** 38,029
  - B** 37,099
  - C** 38,501
  - D** 37,551
  - E** 37,490

*This question has three parts. Be sure to answer all parts of the question.*

- 32.** On Saturday, Katherine's Pie Shop sold 100 pies. This table shows the types and numbers of pies sold that day.

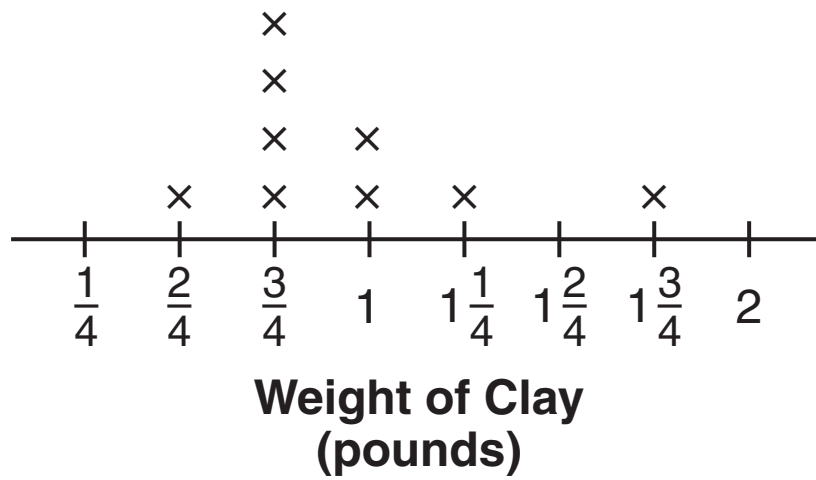
**Katherine's Pies**

Type of Pie	Number Sold
Apple	22
Blueberry	16
Strawberry	20
Chocolate	30
Lemon	12

- a. What fraction of the pies sold were either blueberry or strawberry? Use words or numbers to explain your answer.
- b. What fraction of the pies sold on Saturday were **not** apple? Use words or numbers to explain your answer.
- c. Katherine calculated that  $\frac{28}{100}$  of the pies sold represented two types of pie. Which types of pie could this fraction represent? Use words or numbers to explain your answer.



- 33.** Miss Manning has a 10-pound block of clay that she cuts into pieces. She gives different weights of clay to 10 students. The line plot shows the weight of the clay she gives to 9 of the students.



Miss Manning gives the rest of the clay to the last student. What is the weight, in pounds, of the clay she gives to the last student?

- A**  $\frac{3}{4}$
- B**  $1\frac{1}{4}$
- C**  $1\frac{2}{4}$
- D** 2



- 34.** A zoo has four giraffes. Their weights are given in this table.

### Giraffe Weights

Name	Weight (pounds)
Henry	2,298
Ida	2,423
Masi	2,407
Suzette	2,361

The zoo gets a new giraffe that weighs two thousand, three hundred eight pounds.

Which giraffe has a weight closest to the weight of the new giraffe?

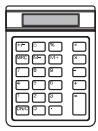
- A** Henry
- B** Ida
- C** Masi
- D** Suzette

- 35.** What is the missing fraction in this equation?

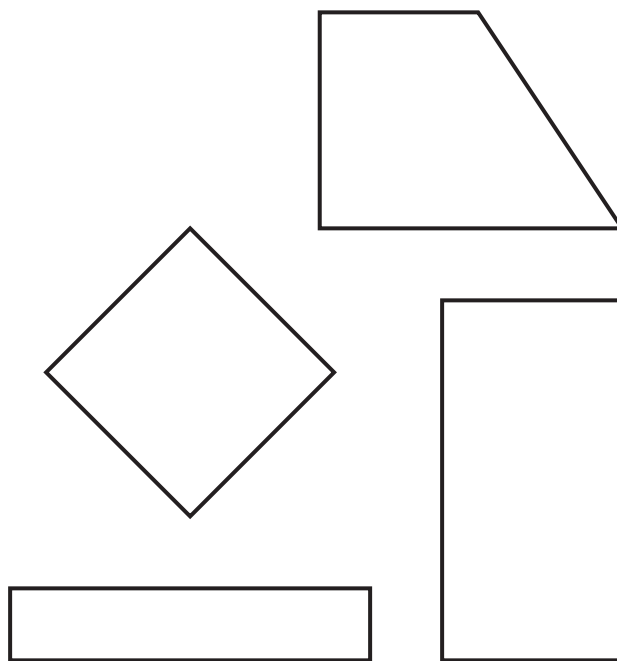
$$3\frac{1}{3} + 1\frac{2}{3} = \square + \frac{5}{3}$$

- A**  $\frac{4}{3}$
- B**  $\frac{9}{3}$
- C**  $\frac{10}{3}$
- D**  $\frac{12}{3}$





36. Four shapes are shown.



Brenna says the shapes all have at least two right angles. Then she realizes there are more ways the shapes are alike.

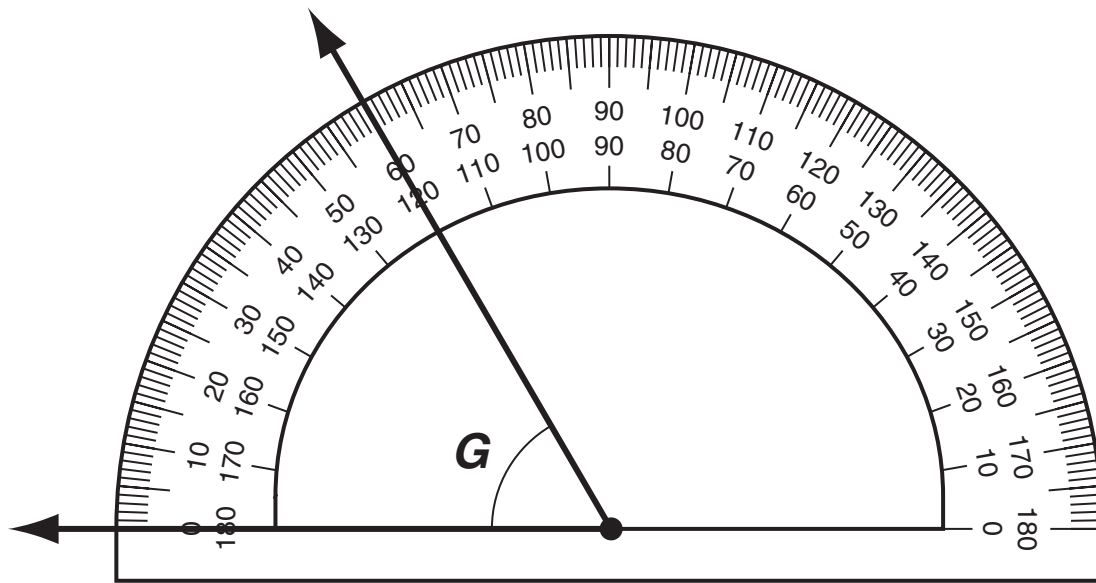
Which is **not** a way the shapes are alike?

- A They all have at least two pairs of perpendicular sides.
- B They all have at least two pairs of parallel sides.
- C They all are quadrilaterals.
- D They all have four angles.





**37.** Angle  $G$  is measured by a protractor, as shown.



What is the measure of angle  $G$ ?

- A  $0^\circ$
- B  $60^\circ$
- C  $120^\circ$
- D  $180^\circ$





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