

# **GRADE 5**

## **Mathematics**

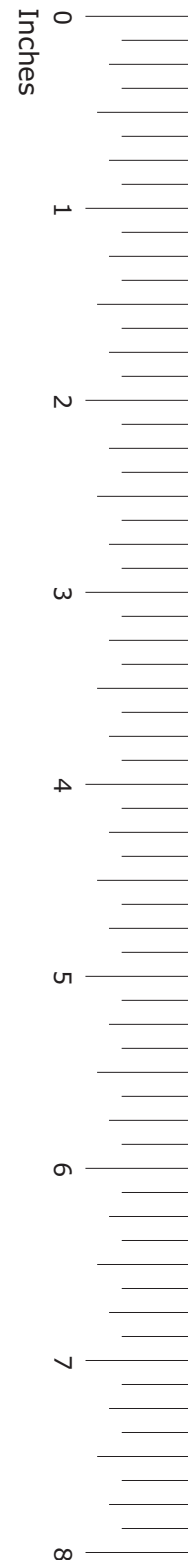
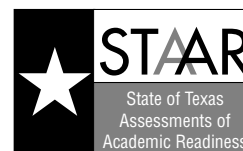
### **Modified**

**Administered April 2014**

## **RELEASED**



# STAAR GRADE 5 MATHEMATICS REFERENCE MATERIALS



## LENGTH

### Customary

1 mile (mi) = 1,760 yards (yd)

1 yard (yd) = 3 feet (ft)

1 foot (ft) = 12 inches (in.)

### Metric

1 kilometer (km) = 1,000 meters (m)

1 meter (m) = 100 centimeters (cm)

1 centimeter (cm) = 10 millimeters (mm)

## VOLUME AND CAPACITY

### Customary

1 gallon (gal) = 4 quarts (qt)

1 quart (qt) = 2 pints (pt)

1 pint (pt) = 2 cups (c)

1 cup (c) = 8 fluid ounces (fl oz)

### Metric

1 liter (L) = 1,000 milliliters (mL)

## WEIGHT AND MASS

### Customary

1 ton (T) = 2,000 pounds (lb)

1 pound (lb) = 16 ounces (oz)

### Metric

1 kilogram (kg) = 1,000 grams (g)

1 gram (g) = 1,000 milligrams (mg)

## TIME

1 year = 12 months

1 year = 52 weeks

1 week = 7 days

1 day = 24 hours

1 hour = 60 minutes

1 minute = 60 seconds

# STAAR GRADE 5 MATHEMATICS REFERENCE MATERIALS

## PERIMETER

Square	$P = 4 \times s$
Rectangle	$P = (2 \times l) + (2 \times w)$

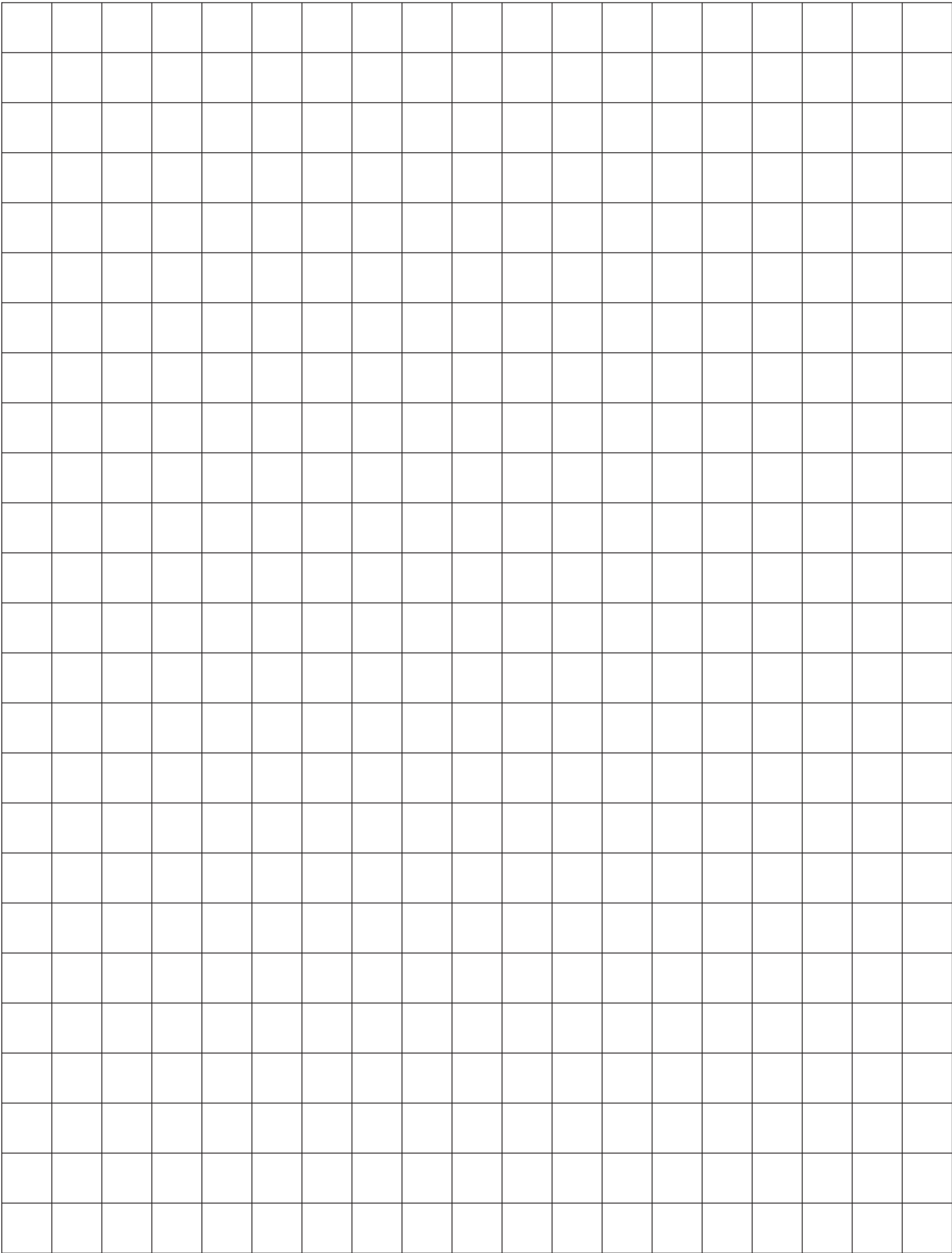
## AREA

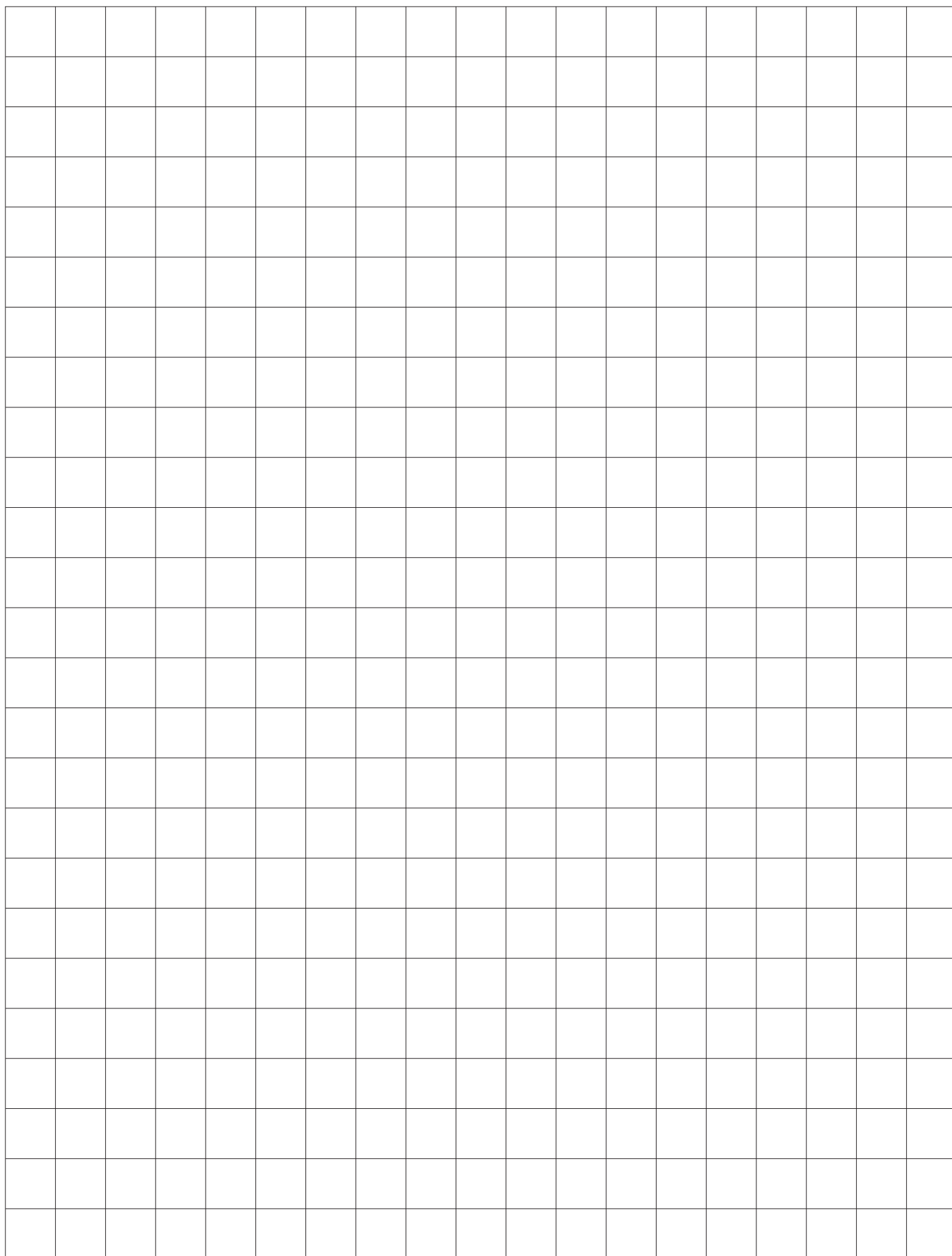
Square	$A = s \times s$
Rectangle	$A = l \times w$

## VOLUME

Cube	$V = s \times s \times s$
Rectangular prism	$V = l \times w \times h$







# MATHEMATICS

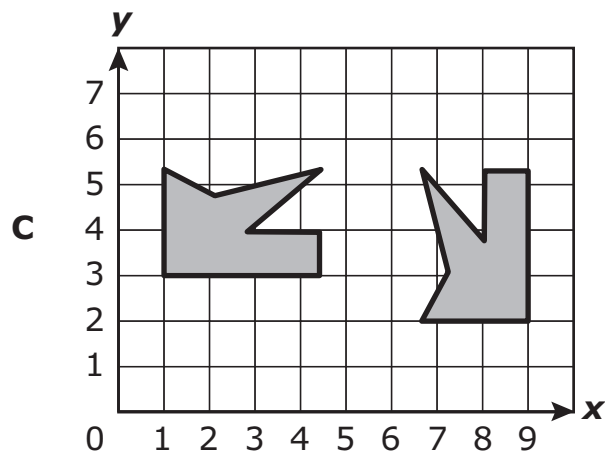
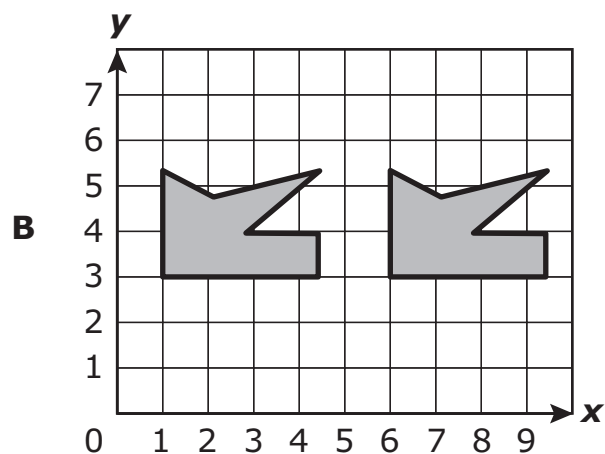
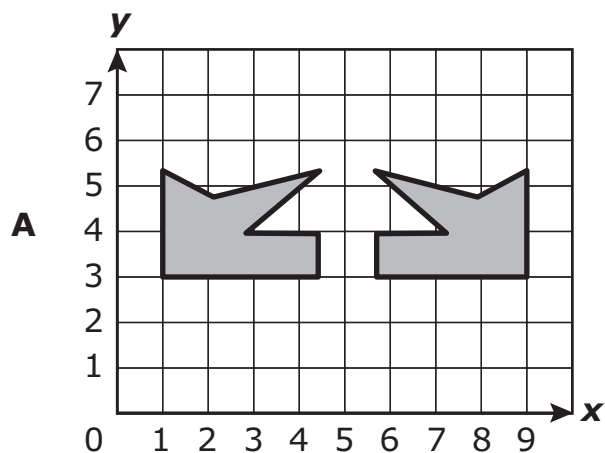




## DIRECTIONS

Read each question. For a multiple-choice question, choose the best answer from the three choices provided and fill it in on your answer document. For a griddable question, fill in your answer in the grid on the answer document.

- 1 Which pair of figures shows only a rotation?



**2** Out of 32 students in a class, 4 students went ice-skating last winter. Which fraction is equivalent to  $\frac{4}{32}$ ?

**F**  $\frac{1}{8}$

**G**  $\frac{1}{25}$

**H**  $\frac{1}{7}$

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**3** Which number is less than seventy-two million, fifty thousand?

**A** 73,600,000

**B** 72,400,000

**C** 72,040,000

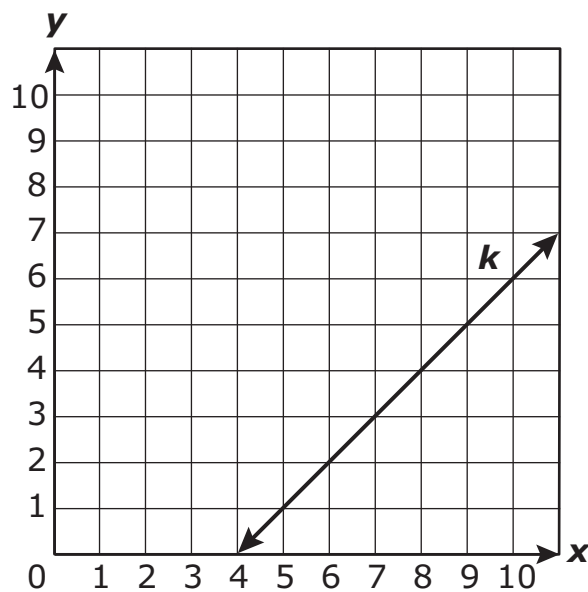
- 4** Roberto is 36 years old. Carmen is 9 years younger than Roberto. Which number sentence can be used to find Carmen's age in years?

**F**  $36 - 9 = \square$

**G**  $36 \times 9 = \square$

**H**  $36 \div 9 = \square$

**5** Look at the coordinate grid below.

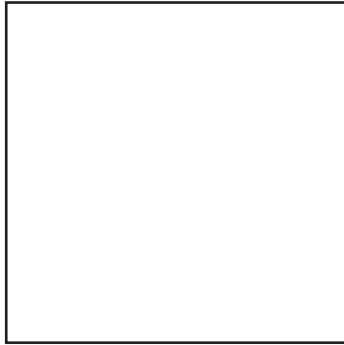


Which ordered pair represents a point on line  $k$ ?

- A**  $(4, 7)$
- B**  $(8, 4)$
- C**  $(9, 2)$

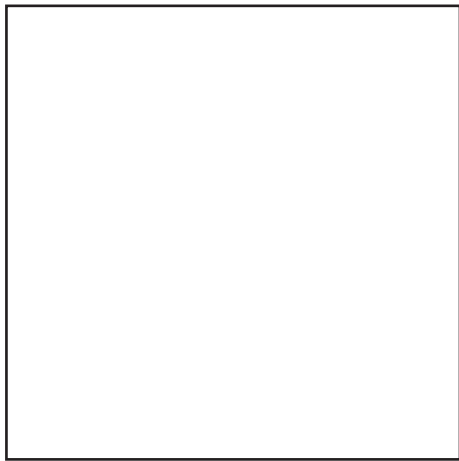
- 6** Martin drew a triangle with a perimeter of 16 centimeters (cm). Then he drew a square with the same perimeter as his triangle. Which of these could be the square Martin drew?

**F**



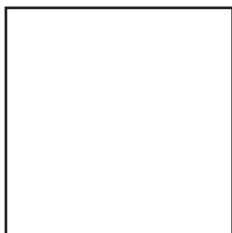
6 cm

**G**



8 cm

**H**



4 cm

**7** Owen is going to school.

- The school is 6.2 miles from where Owen started.
- He has traveled 4.5 miles.

How much farther does he have to go to reach the school?

**A** 10.7 miles

**B** 2.3 miles

**C** 1.7 miles

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**8** A total of 192 students are placed in 12 equal groups. How many students are in each group?

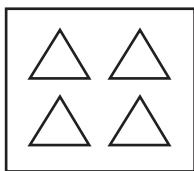
**F** 16

**G** 180

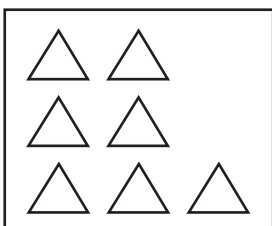
**H** 20

9 Which model shows a prime number of triangles?

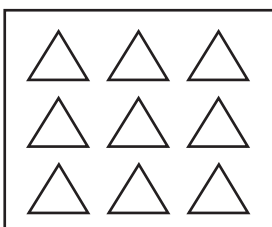
**A**



**B**



**C**



- 10** A building has 4 floors. Each floor has 42 windows. What is the total number of windows on the building?

You may practice recording your answer in the grid below.

			.
0	0	0	
1	1	1	
2	2	2	
3	3	3	
4	4	4	
5	5	5	
6	6	6	
7	7	7	
8	8	8	
9	9	9	

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.



**11** Edgar has 14 T-shirts in a drawer. The number of each color of these T-shirts is shown below.

- 6 red T-shirts
- 3 white T-shirts
- 5 blue T-shirts

Edgar takes a T-shirt out of the drawer without looking. What is the probability that the T-shirt will be red?

**A**  $\frac{6}{8}$

**B**  $\frac{1}{6}$

**C**  $\frac{6}{14}$

- 12** Look at the table below. It shows the total cost of different numbers of months of cable TV service.

Cable TV Service

Number of Months	Total Cost
2	\$40
4	\$80
7	\$140

Which statement describes the relationship between the total cost of cable TV service and the number of months of service?

- F** The total cost is 20 times the number of months.
- G** The total cost is 20 more than the number of months.
- H** The total cost is 40 more than the number of months.

**13** The list below shows the number of tickets sold for a circus on each of 3 days.

10,070

4,150

7,850

About how many tickets were sold during these 3 days?

**A** 30,000

**B** 22,000

**C** 17,000

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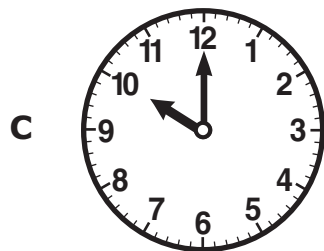
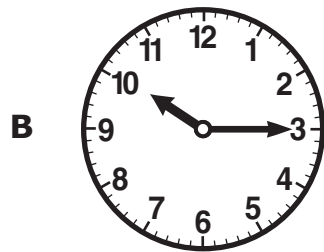
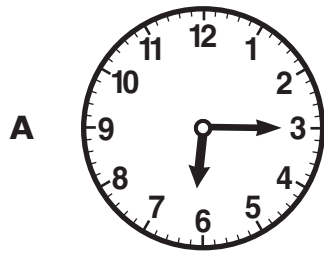
**14** Jonah spent  $\frac{4}{5}$  of his money at a store. Which fraction is equivalent to  $\frac{4}{5}$ ?

**F**  $\frac{16}{25}$

**G**  $\frac{10}{15}$

**H**  $\frac{16}{20}$

- 15** Dennis started taking a test at 8:00 A.M. The test lasted 2 hours 15 minutes. Which clock shows when Dennis finished the test?



- 16** Coach Miller has money to spend on new playground equipment. She can buy jump ropes, softballs, or bats. The table below shows the cost for a piece of each type of equipment.

Playground Equipment

Type	Cost
Jump rope	\$6
Softball	\$4
Bat	\$8

If Coach Miller spends \$576 on jump ropes, how many can she buy?

**F** 144

**G** 96

**H** 72

- 17** The table below shows the height in inches of some players on a basketball team.

Height of Basketball Players

Player	J.I.	N.L.	L.H.	D.K.	K.S.
Height (inches)	55	62	48	60	62

What is the median height of these players?

- A** 60 inches
- B** 48 inches
- C** 62 inches

- 
- 18** Three people won money on a TV game show.

- Nancy won \$2,000.
- Nancy and Fred won \$5,000 combined.
- Tom won 2 times the amount of money that Fred won.

What was the amount of money that Tom won?

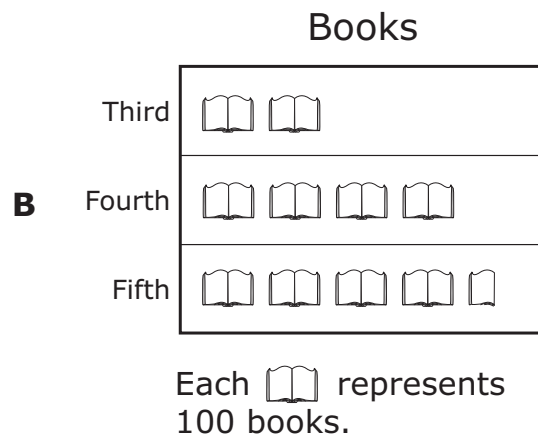
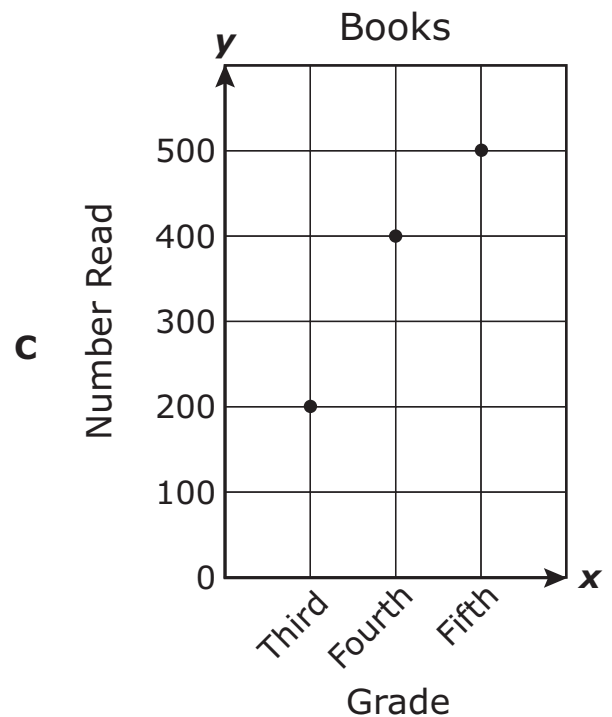
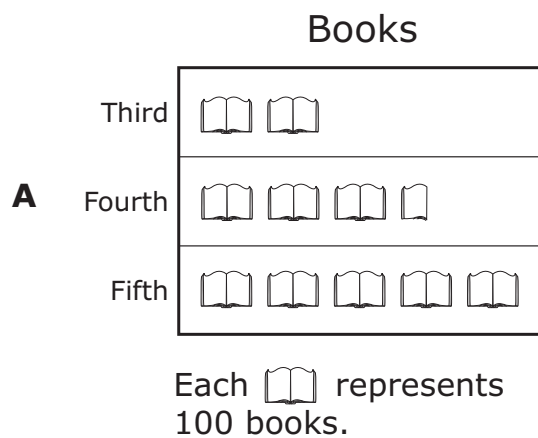
- F** \$3,000
- G** \$6,000
- H** \$14,000

- 19** Look at the table below. It shows the number of books read by students at Butler Elementary School in each of three grades.

Books

Grade	Number Read
Third	200
Fourth	350
Fifth	500

Which graph best represents the data in this table?



**20** Elena completed  $\frac{2}{4}$  of a puzzle. Which fraction is equivalent to  $\frac{2}{4}$ ?

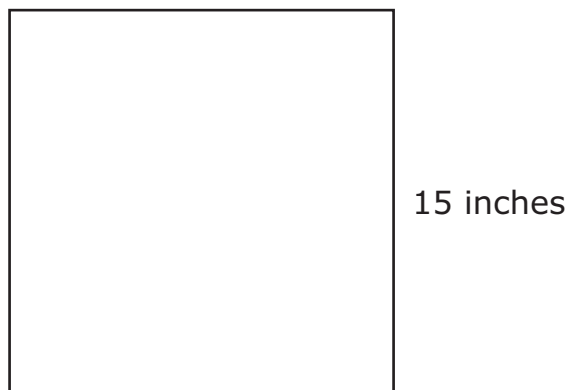
**F**  $\frac{6}{9}$

**G**  $\frac{3}{9}$

**H**  $\frac{4}{8}$



**21** Look at the square below. It has a side length of 15 inches.



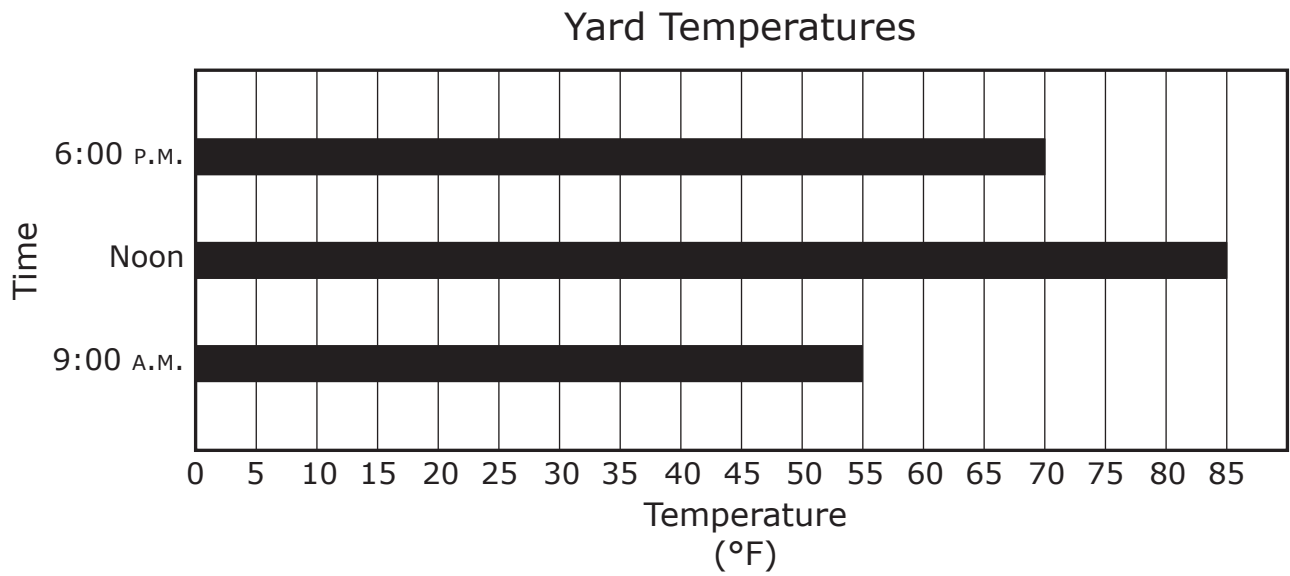
$$A = s \times s$$

Area of a square = side  $\times$  side

What is the area of this square?

- A** 225 square inches
- B** 30 square inches
- C** 60 square inches

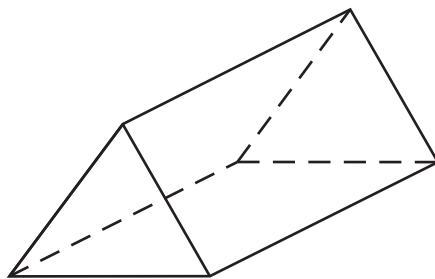
- 22** Look at the graph below. It shows the temperature in a yard at three different times during one day.



What is the median of these three temperatures?

- F** 85°F
- G** 70°F
- H** 30°F

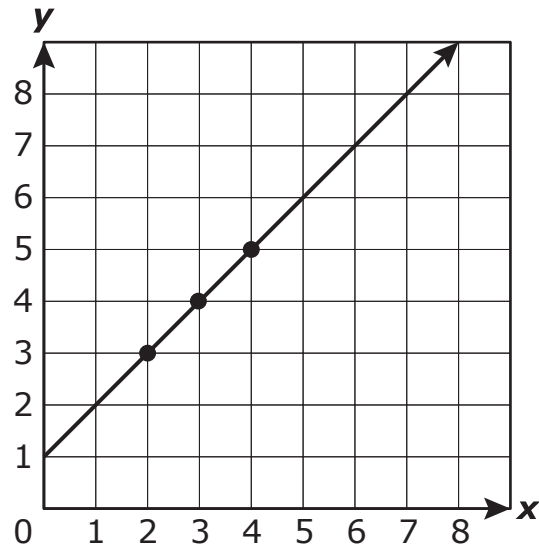
**23** Look at the figure below.



Which statement about this figure is true?

- A** It has an even number of faces.
- B** It has an odd number of vertices.
- C** It has an odd number of edges.

**24** Eduardo made the line graph below.



What are the coordinate pairs of the three points marked on the line?

**F**

<b>x</b>	3	4	5
<b>y</b>	2	3	4

**G**

<b>x</b>	2	3	4
<b>y</b>	3	4	5

**H**

<b>x</b>	2	3	5
<b>y</b>	3	4	4

**25** A school orders one bumper sticker for each student.

- There are 5 classes with 25 students each.
- Each bumper sticker costs \$2.

What is the total cost of these bumper stickers?

**A** \$125

**B** \$250

**C** \$200

---

**26** Maria went swimming 3 out of the first 30 days this summer. Based on this information, what is a reasonable prediction of the number of days she will go swimming out of the next 60 days?

**F** 6

**G** 2

**H** 27

**27** Look at the table below. It shows the number of hours Dana worked on each of three days last week.

Hours Worked			
Day	Monday	Tuesday	Wednesday
Hours	7.5	5	6.5

What is the total number of hours Dana worked last week?

- A** 14.5 hours
- B** 19.0 hours
- C** 6.4 hours

**28** The table below shows the number of songs recorded by five different bands.

Songs

Band	Number of Songs Recorded
V	4
W	9
X	12
Y	4
Z	16

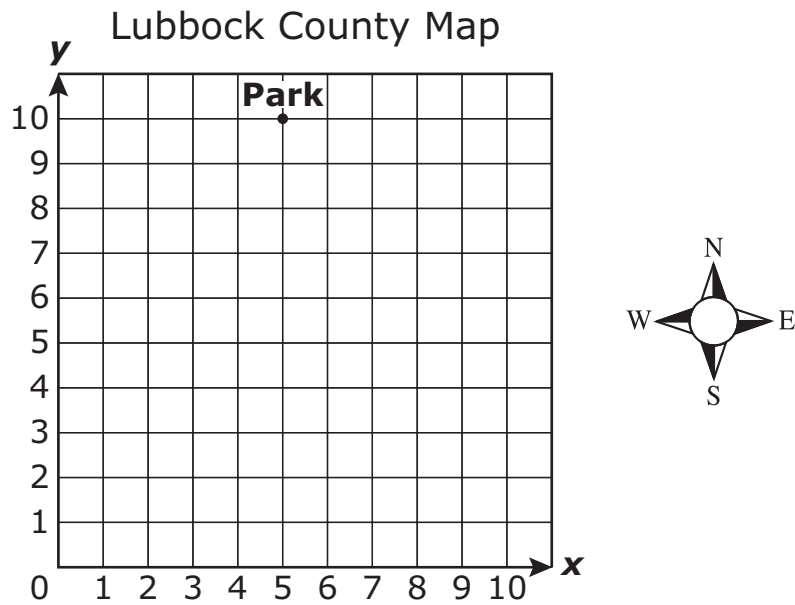
What is the mode of the number of songs recorded by these bands?

**F** 4

**G** 12

**H** 9

- 29** Look at the coordinate grid below. It shows the location of a park in Lubbock County.



Mr. Brown lives 4 units directly south of the park. Which ordered pair represents where Mr. Brown lives?

- A** (1, 10)
- B** (6, 5)
- C** (5, 6)



- 30** Eli took 6 bottles of water to a track meet. Each bottle contained 1 liter of water.

$1 \text{ liter} = 1,000 \text{ milliliters}$
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Which of these is equal to the amount of water Eli took to the track meet?

- F** 5,000 milliliters
- G** 6,000 milliliters
- H** 6,000 liters

- 
- 31** Which expression can be used to show that 24 is a composite number?

- A**  $3 \times 12$
- B**  $1 \times 24$
- C**  $4 \times 6$

- 32** Look at the table below. It shows the prices for different kinds of medium and large pizzas.

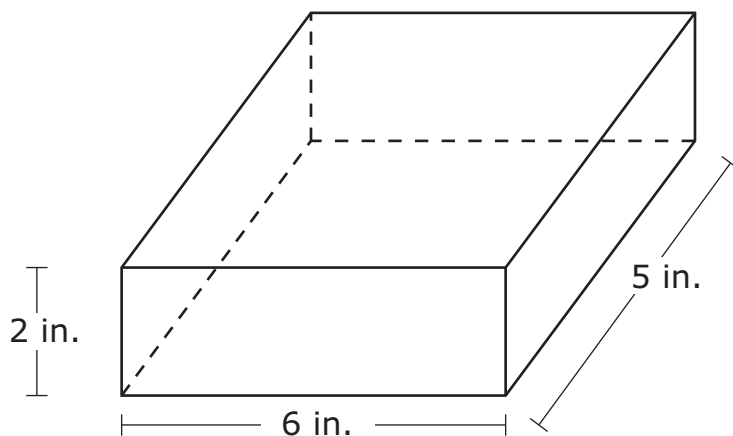
Pizza

Kind of Pizza	Medium	Large
Pepperoni	\$9.00	\$12.50
Sausage	\$8.25	\$11.75
Cheese	\$7.50	\$11.00

Based on the information in this table, which statement is true about each kind of pizza?

- F** A large pizza is \$4.50 more than a medium pizza.
- G** A large pizza is \$3.50 more than a medium pizza.
- H** A large pizza is \$3.50 less than a medium pizza.

- 33** The box below is a rectangular prism. The length, width, and height are shown in inches (in.).



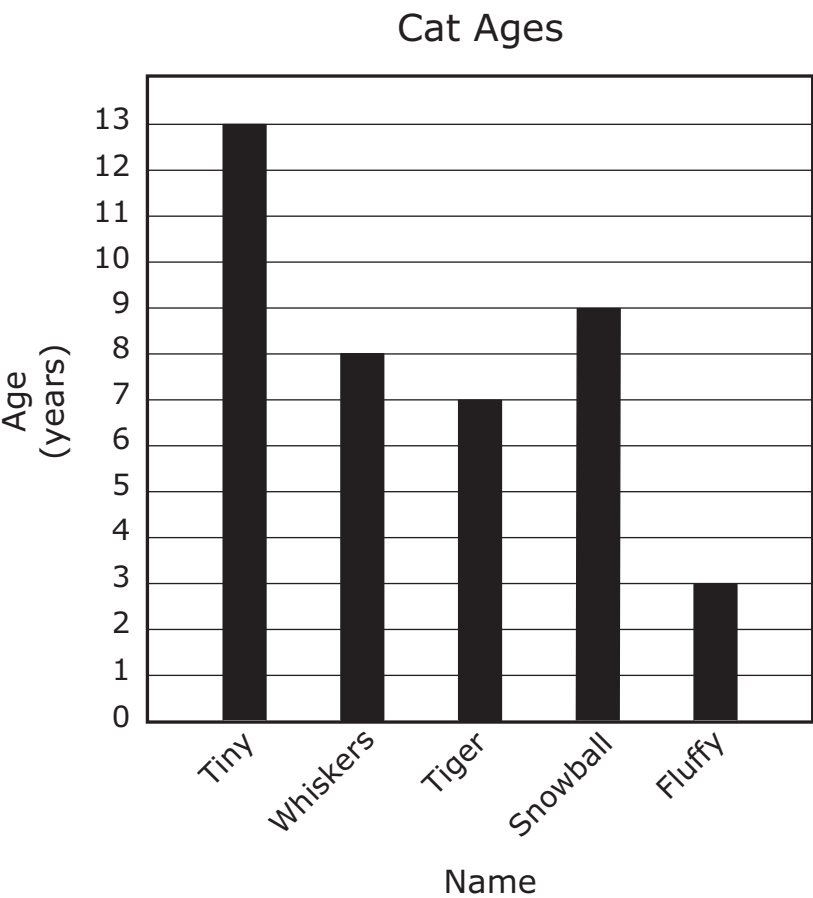
$$V = l \times w \times h$$

Volume of a rectangular prism = length  $\times$  width  $\times$  height

What is the volume of the box in cubic inches?

- A** 30 cubic inches
- B** 60 cubic inches
- C** 17 cubic inches

**34** Ben surveyed 5 friends about the ages of their cats. The graph shows the results of his survey.



What is the range of the five cats' ages?

- F** 8 years
- G** 10 years
- H** 13 years

- 35** Some students took turns pulling a marble out of a bag without looking. They recorded its color and then placed the marble back in the bag. The results are shown in the table below.

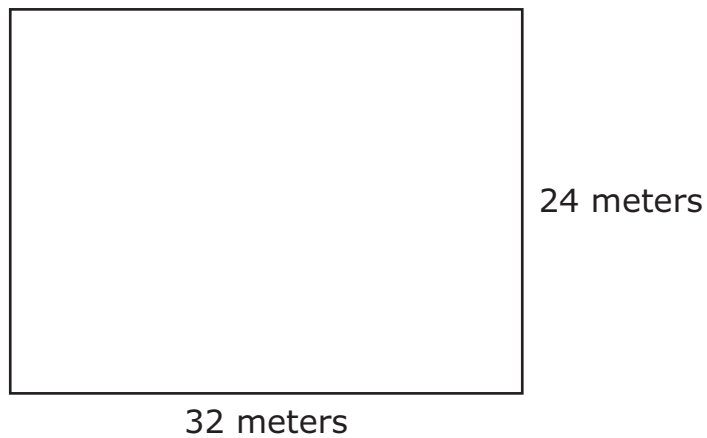
Marbles

Color	Number of Times
Pink	7
Yellow	14
Purple	21

Based on this table, which statement about the next marble to be pulled out of the bag is true?

- A** It is 2 times as likely to be purple as pink.
- B** It is 7 times as likely to be purple as yellow.
- C** It is 3 times as likely to be purple as pink.

**36** Look at the drawing below. It shows the dimensions of a rectangular floor.



Which expression can be used to find the area of the rectangular floor in square meters?

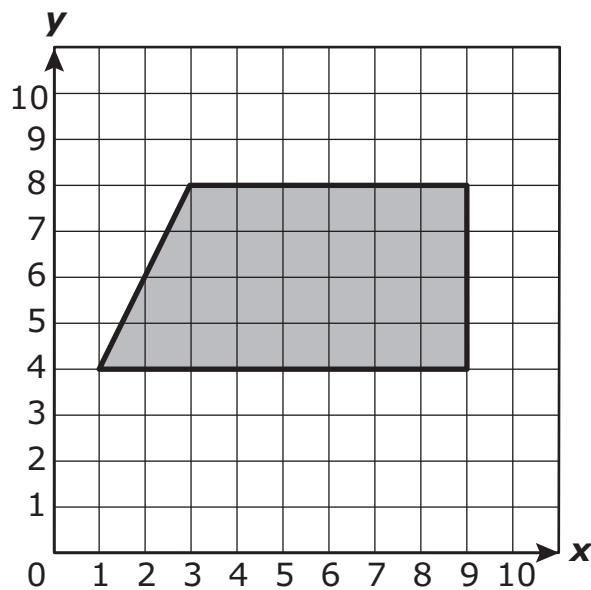
**F**  $(2 \times 32) + (2 \times 24)$

**G**  $32 \times 24$

**H**  $2 \times 32 \times 24$

- 37** A seal can travel as far as 6,000 miles in 1 year. What is the greatest number of miles a seal can travel in 5 years?
- A** 30,000, because  $6,000 \times 5 = 30,000$
- B** 1,200, because  $6,000 \div 5 = 1,200$
- C** 72,000, because  $6,000 \times 12 = 72,000$

**38** Look at the coordinate grid below.



Which ordered pair describes a point outside the shaded figure?

**F** (2, 5)

**G** (7, 5)

**H** (5, 2)



**39** Sam has read more than  $\frac{2}{3}$  of his book. Which fraction is greater than  $\frac{2}{3}$ ?

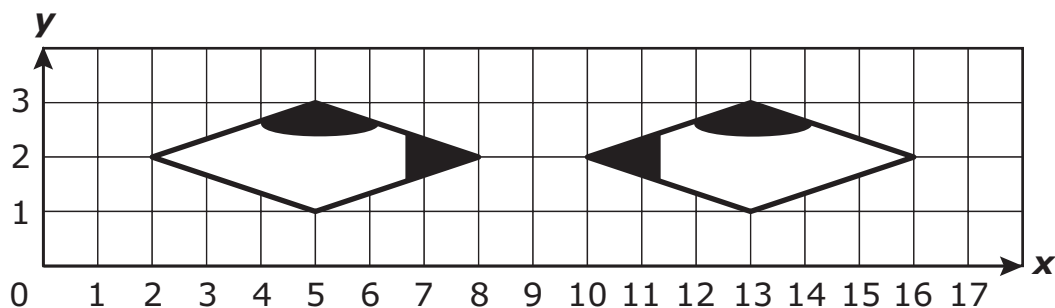
**A**  $\frac{6}{9}$

**B**  $\frac{5}{6}$

**C**  $\frac{6}{12}$

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**40** Look at the picture below. It shows a single transformation.



Which transformation is shown?

**F** Translation

**G** Rotation

**H** Reflection

BE SURE YOU HAVE RECORDED ALL OF YOUR ANSWERS  
ON THE ANSWER DOCUMENT.







**STAAR MODIFIED  
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April 2014**