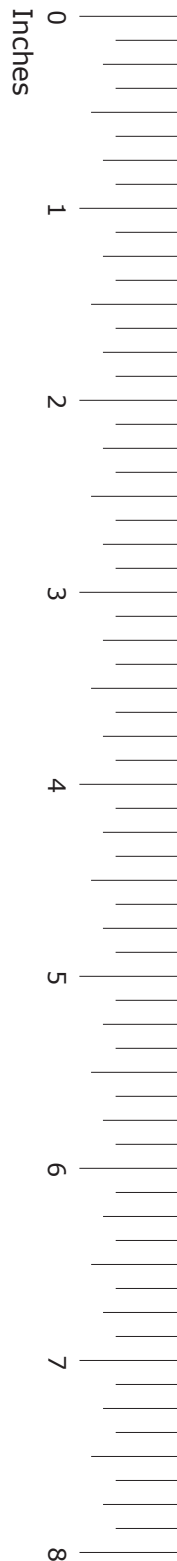


GRADE 5
Mathematics

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

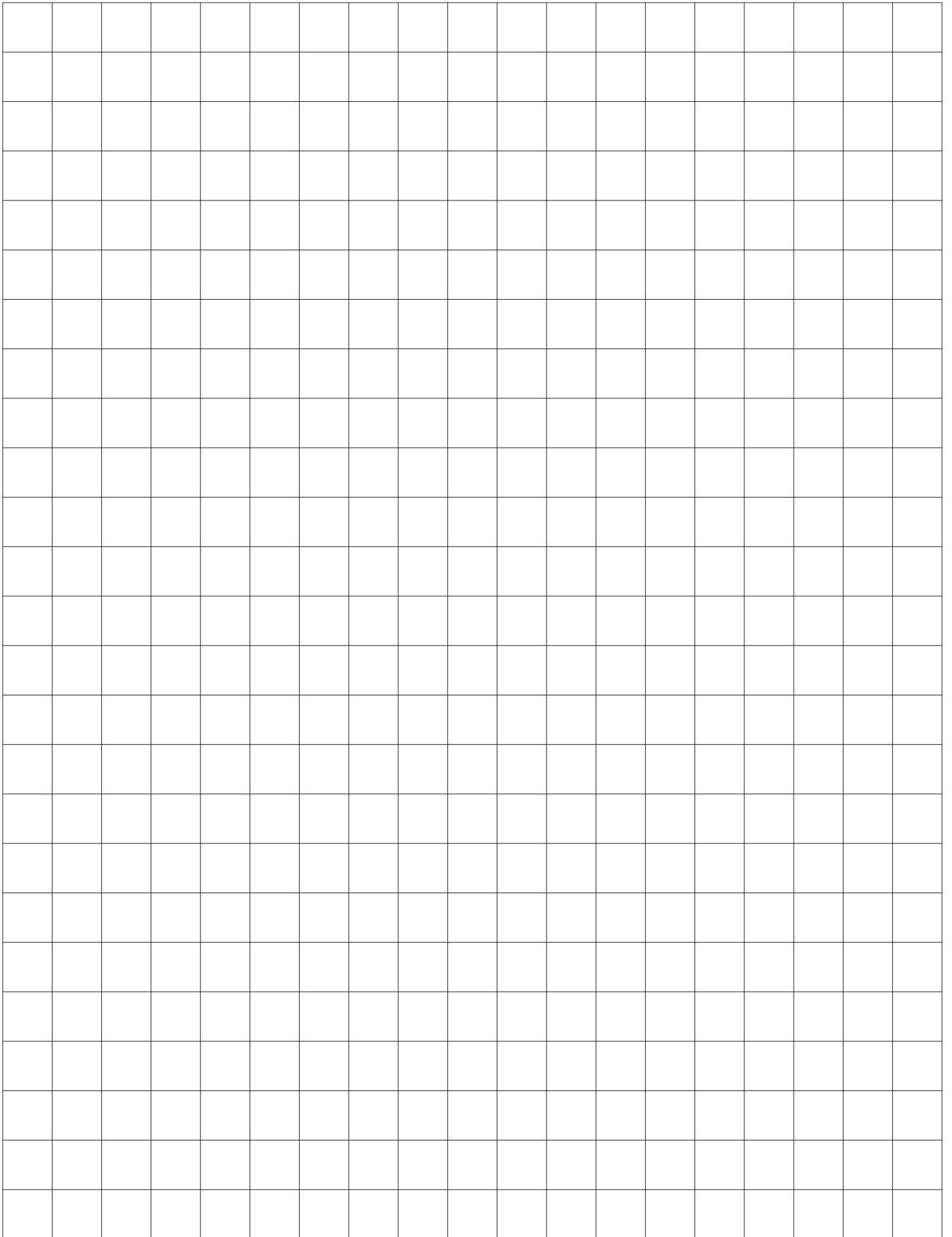
Cube

$$V = s \times s \times s$$

Rectangular prism

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





MATHEMATICS

DIRECTIONS

Read each question carefully. For a multiple-choice question, determine the best answer to the question from the four answer choices provided. For a griddable question, determine the best answer to the question. Then fill in the answer on your answer document.

- 1 The table below shows the prices of different movie tickets.

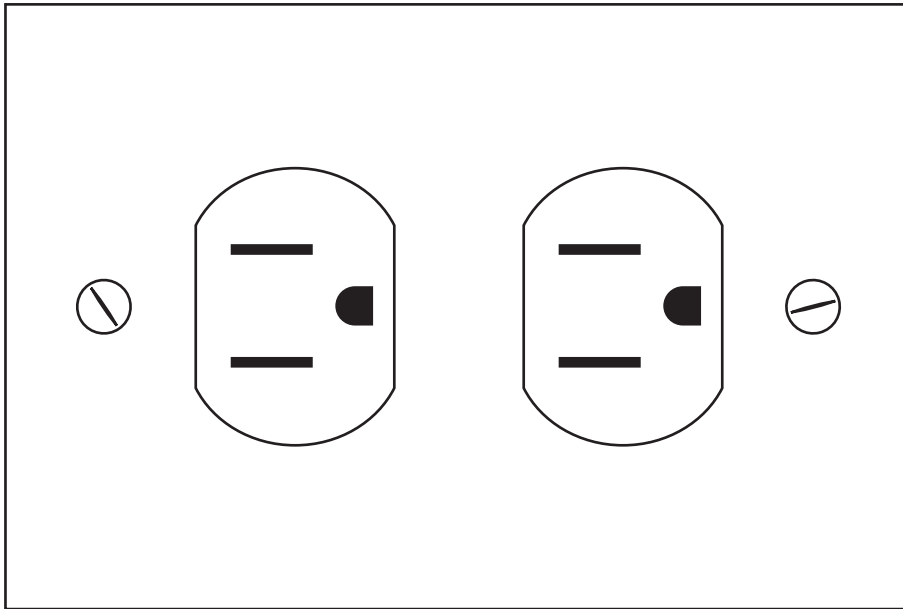
Movie Ticket Prices

Type of Movie	Adult Ticket	Child Ticket
General admission	\$10	\$7
Matinee	\$8	\$7
Special event	\$14	\$12
3-D	\$13	\$10

Mr. Gallego bought 2 adult tickets and 4 child tickets for his family and paid a total of \$66. For which type of movie are Mr. Gallego's tickets?

- A General admission
- B Matinee
- C Special event
- D 3-D

- 2 Kacey bought a rectangular wall plate for an electrical outlet. A picture of the wall plate is shown below. Use the ruler provided to measure the dimensions of the wall plate to the nearest centimeter.



Which measurement is closest to the perimeter, in centimeters, of the wall plate?

- F 44 cm
- G 96 cm
- H 40 cm
- J 20 cm

3 A gumball machine contained 60 gumballs one morning. The list below shows the number of gumballs of each color that came out of the machine during that day.

- 6 red
- 7 purple
- 4 green
- 3 blue
- 5 orange
- 5 pink

What fraction of the gumballs that came out of the machine that day were purple?

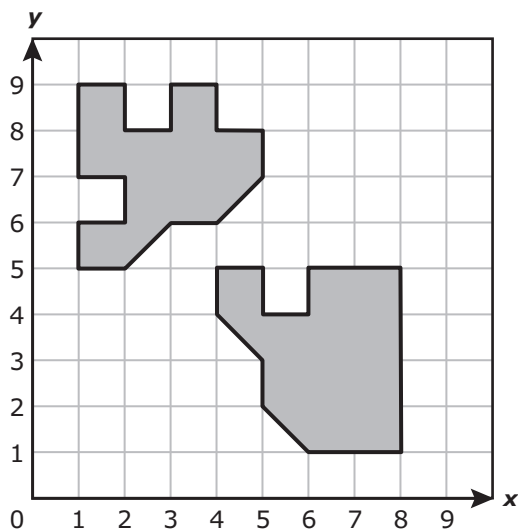
A $\frac{7}{30}$

B $\frac{7}{23}$

C $\frac{1}{7}$

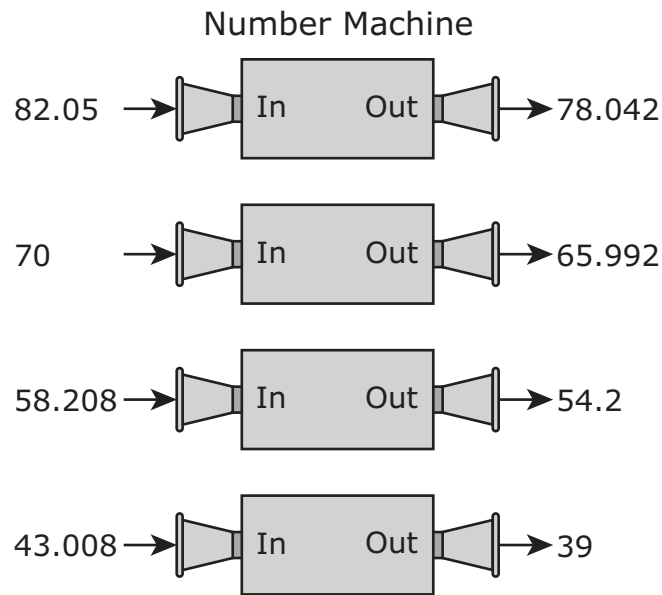
D $\frac{1}{6}$

4 What single transformation is shown below?



- F Reflection
- G Rotation
- H Translation
- J No single transformation is shown.

- 5 Mike used a number machine. Each number he put into the machine came out as a different number according to a rule. Some examples are shown below.



Which statement describes the relationship between the number Mike put into the machine and the number that came out of it?

- A The number that came out of the machine was 5.012 less than the number he put into it.
- B The number that came out of the machine was 4.008 less than the number he put into it.
- C The number that came out of the machine was 16.012 more than the number he put into it.
- D The number that came out of the machine was 4.008 more than the number he put into it.

6 Frances used small, medium, and large cups to serve punch.

- She used 243 medium cups.
- She used 79 more medium cups than large cups.
- She used 56 more small cups than large cups.

How many small cups did Frances use to serve punch?

- F** 220
- G** 108
- H** 266
- J** Not here

7 The masses of two gorillas are given below.

- A female gorilla has a mass of 85,000 grams.
- A male gorilla has a mass of 220 kilograms.

What is the difference between these two masses in grams?

- A** 135,000 g
- B** 84,780 g
- C** 63,000 g
- D** 305,000 g

- 8 The table below shows the number of people in each age range who lived in the United States in 2008.

People Living in the United States in 2008

Age Range	Under 5 years	5 to 9 years	10 to 14 years	15 to 19 years
Number of People	21,005,852	20,065,249	20,054,627	21,514,358

In which age range were there more than 20,054,913 people but fewer than 21,005,850 people living in the United States in 2008?

- F Under 5 years
- G 5 to 9 years
- H 10 to 14 years
- J 15 to 19 years

-
- 9 The list below shows the number of shirts of different types that Savannah sold one day at a store.

- Shirt with vertical stripes: 6
- Shirt with horizontal stripes: 4
- Shirt with a school mascot: 5
- Shirt that is plain: 18

Based on these results, what is the most reasonable prediction of the number of shirts with a school mascot that will be sold out of the next 165 shirts sold?

- A 25
- B 160
- C 28
- D 140

10 Xavier spent less than $\frac{2}{5}$ of an hour walking home from school. Which fraction is less than $\frac{2}{5}$?

F $\frac{5}{7}$

G $\frac{3}{4}$

H $\frac{5}{10}$

J $\frac{2}{9}$

11 Karina wrote the two sets of numbers shown below.

Set A	Set B
3	4
7	3
11	7
6	10
2	1
1	
10	6
8	2
2	9


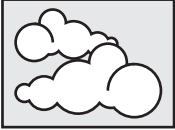
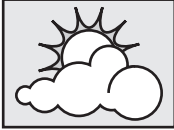
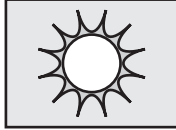
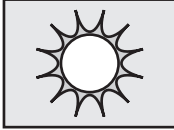
Which number could be added to Set B to make the mode of Set B greater than the mode of Set A?

- A** 3
- B** 2
- C** 12
- D** 8

12 Ezekiel has 433 golf balls that he can put in 11 boxes. Each box must contain the same number of golf balls. What is the greatest number of golf balls Ezekiel can put in each box?

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

13 A five-day weather forecast is shown below.

Monday	Tuesday	Wednesday	Thursday	Friday
				
Rainy	Cloudy	Partly cloudy	Sunny	Sunny
High: 70°F Low: 68°F	High: 74°F Low: 61°F	High: 76°F Low: 58°F	High: 82°F Low: 64°F	High: 76°F Low: 68°F

Based on this forecast, on which days will there be a difference of 18°F between the high and low temperatures?

- A Wednesday, Thursday, and Friday
- B Thursday only
- C Wednesday and Thursday only
- D Monday only

14 The table below shows Ted's age at the end of different grade levels.

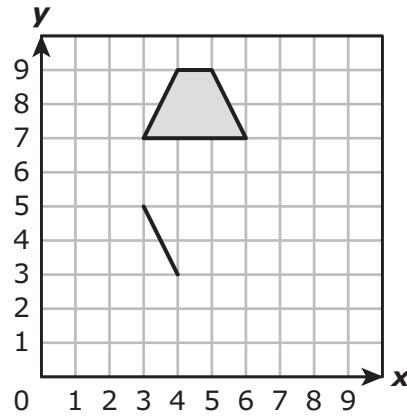
Ted's Age

Grade Level	Age (years)
3	9
4	10
7	13
11	17

Which statement describes the relationship between Ted's grade level and his age?

- F** Ted's age is equal to his grade level times 3.
- G** Ted's age is equal to his grade level divided by 3.
- H** Ted's age is equal to 6 less than his grade level.
- J** Ted's age is equal to 6 more than his grade level.

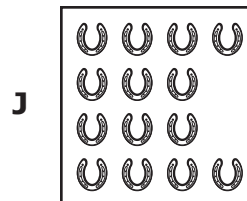
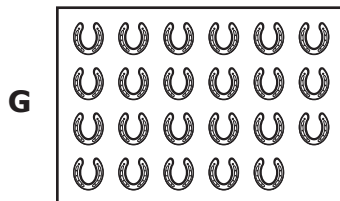
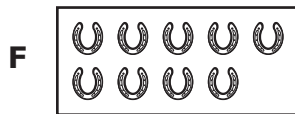
15 Edward is sketching a reflection of the shaded figure below.



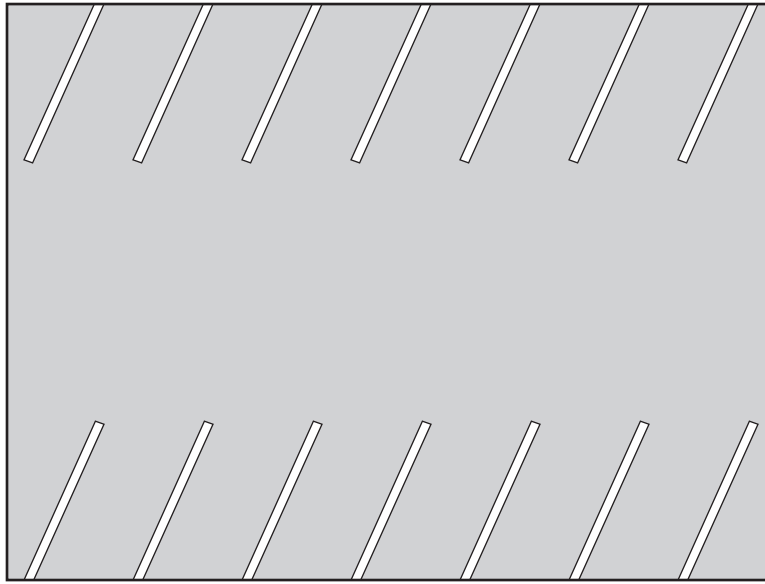
Which ordered pair would represent a vertex on his completed sketch?

- A (7, 6)
- B (6, 4)
- C (5, 3)
- D (7, 3)

16 Which group of horseshoes represents a prime number?



- 17** A rectangular parking lot is represented by the scale drawing below. Use the ruler provided to measure the length and width of the rectangle to the nearest inch.



SCALE
1 inch represents 20 feet.

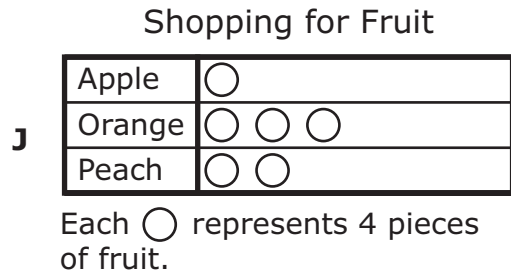
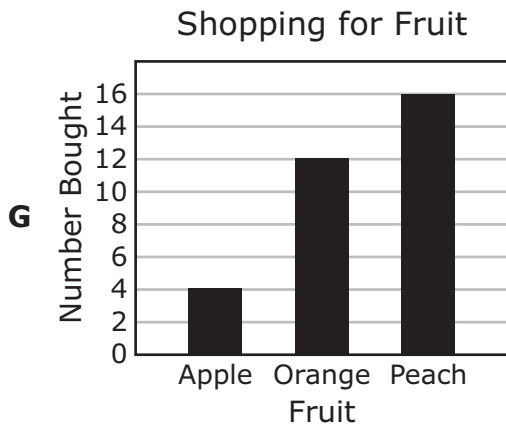
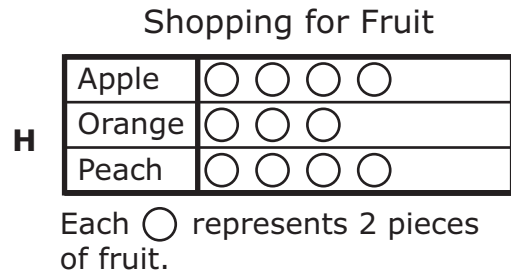
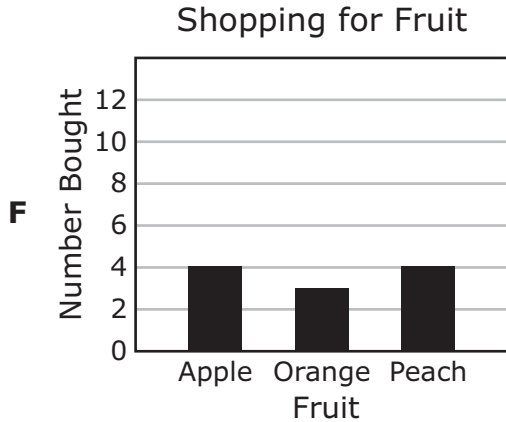
Which measurement is closest to the area, in square feet, of the actual parking lot?

- A** 8,000 square feet
- B** 360 square feet
- C** 4,800 square feet
- D** 280 square feet

18 Isaiah bought three kinds of fruit at the store.

- He bought 4 apples.
- He bought 3 times as many oranges as apples.
- He bought 4 more peaches than apples.

Which graph represents the fruit Isaiah bought?



19 Last year Ryan went to school for 36 out of 52 weeks. Which fraction is **NOT** equivalent to $\frac{36}{52}$?

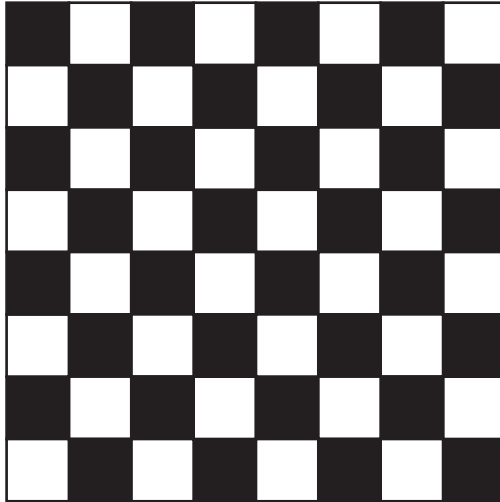
A $\frac{10}{26}$

B $\frac{9}{13}$

C $\frac{72}{104}$

D $\frac{18}{26}$

20 Yuan has a game board like the one shown below.



Which of the following is the best estimate of the number of black squares that are on 188 of these game boards?

- F** 4,000
- G** 3,000
- H** 2,500
- J** 6,000

- 21** A grocery store asked each of 100 dentists to recommend a toothpaste brand. The table below shows the four brands recommended and the number of dentists who recommended each brand.

Toothpaste
Recommendations

Brand	Number of Dentists
M	40
P	24
Q	20
T	16

The grocery store will ask another group of 25 dentists each to recommend a toothpaste brand. Based on the information in the table, what is the most reasonable prediction of the number of dentists in this group who will recommend Brand T?

- A** 3
- B** 2
- C** 9
- D** 4

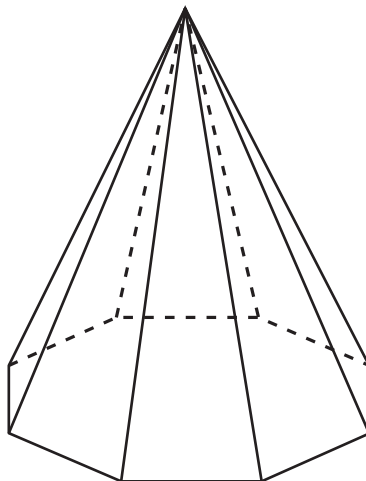
22 Mrs. Zapata paid a total of \$8.17 to mail three packages.

- She paid \$2.77 to mail the first package.
- She paid \$3 to mail the second package.

How much did Mrs. Zapata pay to mail the third package?

- F** \$3.60
G \$2.40
H \$6.37
J Not here

23 Which statement about the figure below is true?



- A** It has exactly 8 faces and 8 vertices.
B It has exactly 16 edges and 8 vertices.
C It has exactly 9 faces and 16 edges.
D It has exactly 9 faces and 9 edges.

- 24** A water dispenser contains 512 fluid ounces of water. What is the total number of 8-fluid-ounce cups of water that can be filled from the dispenser?
- F** 611
G 64
H 4,096
J 61

-
- 25** The table shows the number of grams of sugar in one serving of different breakfast cereals.

Breakfast Cereal Facts

Cereal	Sugar in One Serving (grams)
Brand V	4
Brand W	9
Brand X	7
Brand Y	4
Brand Z	6

What is the median of the number of grams of sugar in one serving of these cereals?

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

26 An individual computer lab session at a school is 24 minutes long. On Monday 313 students each completed a session at the computer lab. What is the total number of minutes that all these students spent in the computer lab on Monday?

F 337 min

G 7,402 min

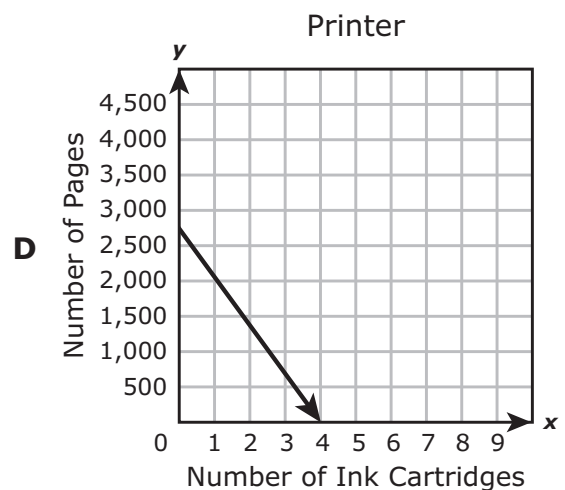
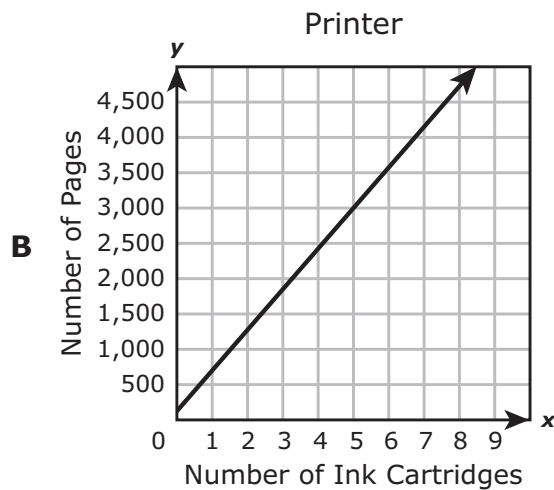
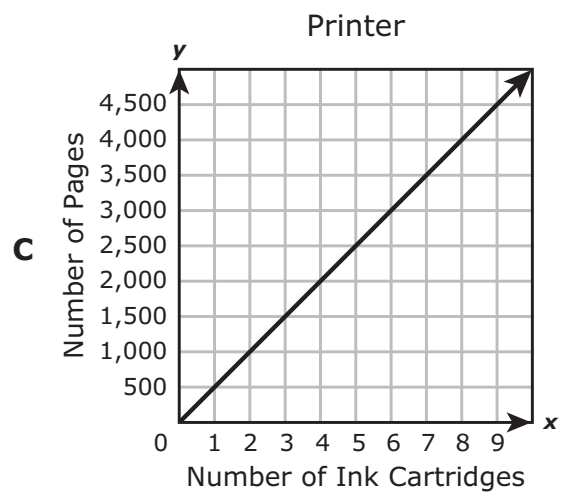
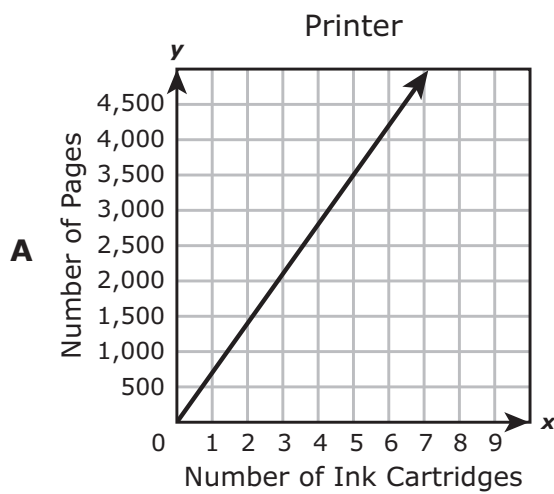
H 1,878 min

J Not here

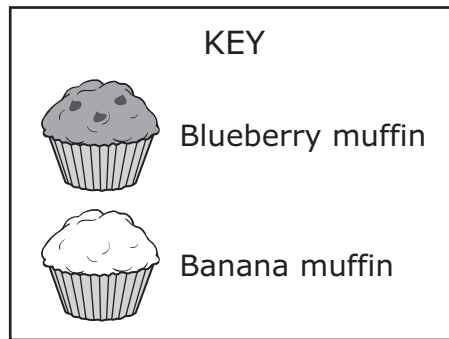
- 27 The table shows the number of pages that a printer can print using different numbers of ink cartridges.

Printer	
Number of Ink Cartridges	Number of Pages
1	700
2	1,400
4	2,800

Which graph represents the data in the table?



28 The model below shows the muffins Angelica baked. She baked two kinds of muffins.



Which equation shows one way to find the difference between the fraction of muffins that are blueberry and the fraction of muffins that are banana?

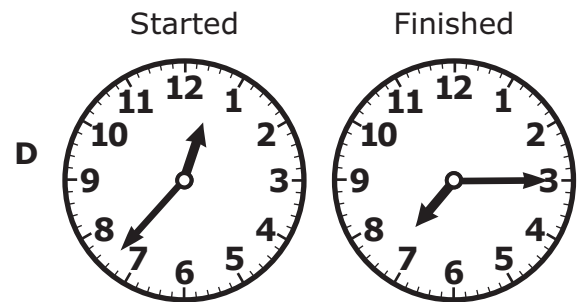
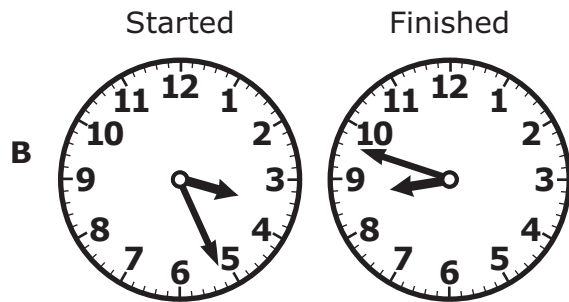
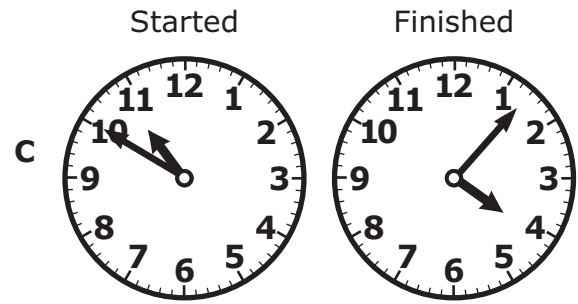
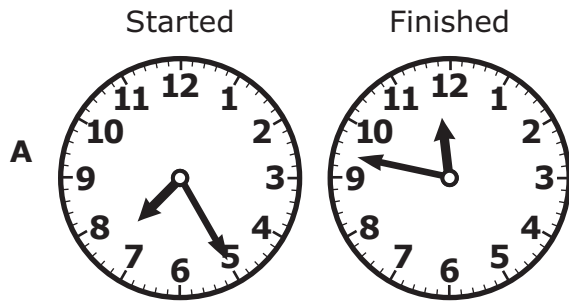
F $\frac{7}{12} + \frac{5}{12} = \frac{12}{12}$

G $\frac{12}{12} - \frac{7}{12} = \frac{5}{12}$

H $\frac{12}{12} + \frac{7}{12} = \frac{19}{12}$

J $\frac{7}{12} - \frac{5}{12} = \frac{2}{12}$

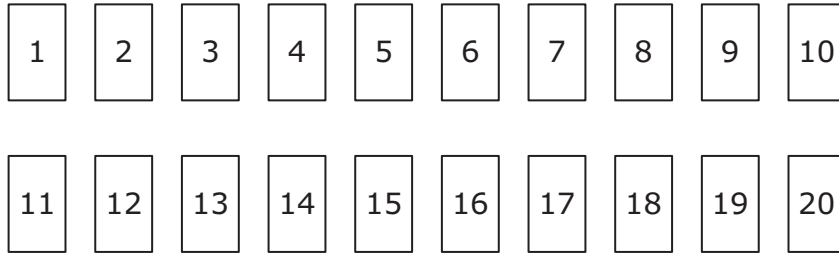
- 29** An airplane flight lasted 5 hours 22 minutes. Which pair of clocks could show the time the flight started and the time it finished?



- 30** Jackson sold towels at the beach. If he sold 7 out of every 9 towels he had, which statement could be true?

- F** Out of 27 towels, he sold 21.
- G** Out of 18 towels, he sold 7.
- H** Out of 36 towels, he sold 35.
- J** Out of 72 towels, he sold 63.

31 Ichiro has a set of 20 cards that each show a different number, as shown below.



Ichiro will randomly select one of these cards. What is the probability that the card he selects will show a prime number?

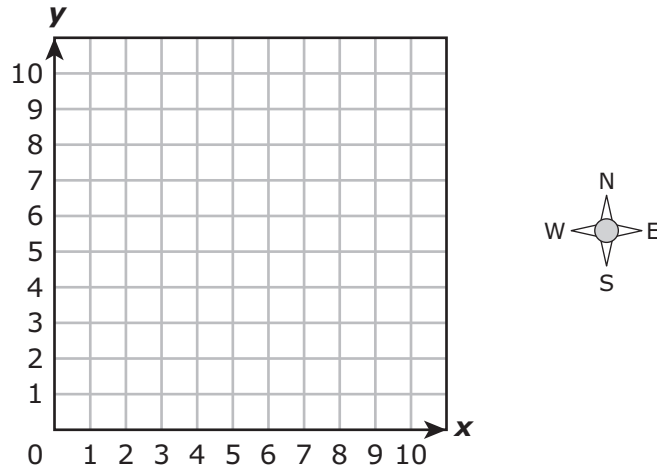
A $\frac{8}{12}$

B $\frac{1}{8}$

C $\frac{8}{20}$

D $\frac{10}{20}$

32 The coordinates $(0, 1)$ represent Mary's location on a dance floor.



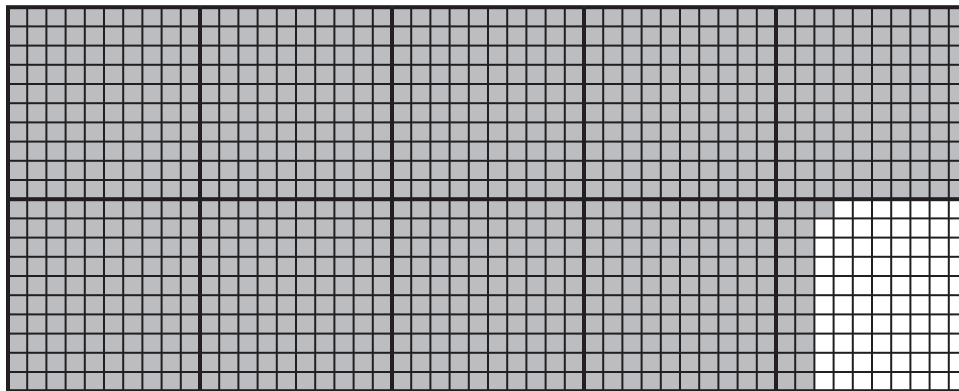
Hailey is located 3 units north and 2 units east of Mary. Which ordered pair represents Hailey's location?

- F** $(2, 4)$
- G** $(3, 3)$
- H** $(4, 2)$
- J** $(0, 6)$

33 The side length of a square is 20 millimeters. Which statement about this square is true?

- A** The perimeter of the square is 400 millimeters, because $20 \times 20 = 400$.
- B** The perimeter of the square is 80 millimeters, because $20 \times 4 = 80$.
- C** The area of the square is 40 square millimeters, because $20 \times 2 = 40$.
- D** The area of the square is 80 square millimeters, because $20 \times 4 = 80$.

- 34 The distance between two houses is $\frac{921}{1,000}$ kilometer, as modeled below.



Which decimal is equivalent to the distance between these two houses?

- F 9.21 km
- G 0.0921 km
- H 0.921 km
- J 9.021 km

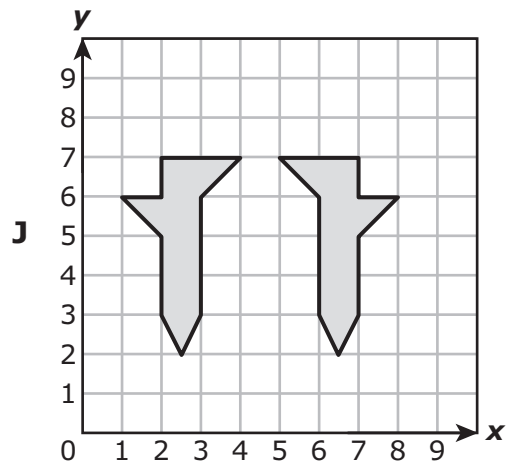
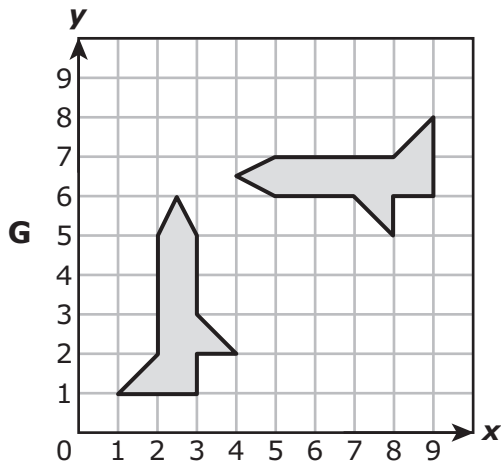
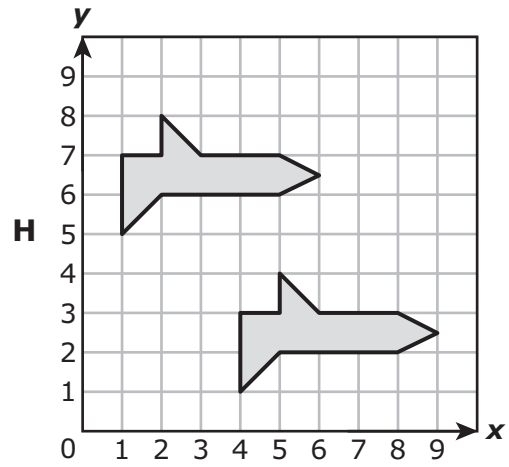
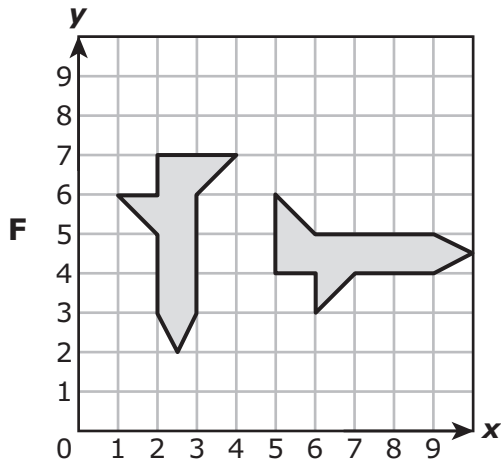
-
- 35 There is a relationship between the numbers in each pair below.

$$(168, 12), (126, 9), (84, 6), (42, 3)$$

What is the relationship between the numbers in each pair?

- A The first number in each pair is the quotient of the second number and 14.
- B The first number in each pair is the product of the second number and 14.
- C The second number in each pair is the difference between the first number and 3.
- D The second number in each pair is the sum of the first number and 39.

36 Which coordinate grid shows only a rotation?



- 37** After a parade there were 4 tons of trash to be picked up. By the end of the day, volunteers had picked up 7,200 pounds of trash. How many pounds of trash were still left to be picked up at the end of the day?

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

-
- 38** A principal randomly chose 40 students from grade 5. Of these students, 9 were wearing watches. Based on this information, what is the most reasonable prediction of the number of students wearing watches in a group of 120 students from grade 5?

- F** 27
G 9
H 18
J 80

- 39 The table below shows the distance, in miles, four students each traveled in a canoe.

Canoe Trips

Student	Distance Traveled (miles)
Whitney	$\frac{3}{8}$
Rico	$\frac{4}{10}$
Edna	$\frac{3}{5}$
Phillip	$\frac{2}{4}$

Which statement is true?

- A The distance Whitney traveled is greater than the distance Rico traveled.
- B The distance Edna traveled is less than the distance Phillip traveled.
- C The distance Whitney traveled is less than the distance Phillip traveled.
- D The distance Rico traveled is greater than the distance Edna traveled.

-
- 40 Nola had 124 sheets of colored paper.

- She used 20 sheets to make a picture.
- She used all the remaining sheets to make 4 posters.
- She used the same number of sheets to make each poster.

Which equation can be used to find n , the number of sheets of colored paper Nola used to make each poster?

- F $(124 + 20) \times 4 = n$
- G $(124 - 20) \div 4 = n$
- H $(124 - 20) \times 4 = n$
- J $(124 + 20) \div 4 = n$

41 Oliver can go to 1 restaurant for either lunch or dinner. His choice of restaurants is listed below.

- Chinese
- Italian
- Mexican
- Barbecue

Which list shows all the possible outcomes of 1 restaurant and 1 meal?

- A** Chinese, lunch
Chinese, dinner
Italian, Chinese
Italian, dinner
Mexican, lunch
Mexican, barbecue
Barbecue, lunch
Barbecue, dinner
- B** Chinese, lunch
Italian, lunch
Mexican, dinner
Barbecue, dinner
- C** Chinese, lunch
Chinese, dinner
Italian, lunch
Italian, dinner
Mexican, lunch
Mexican, dinner
Barbecue, lunch
Barbecue, dinner
- D** Chinese, lunch
Chinese, dinner
Italian, lunch
Italian, dinner

42 A teacher bought a bag of clothespins. In the bag, $\frac{6}{18}$ of the clothespins are blue.
Which fraction is equivalent to the fraction of clothespins that are blue?

F $\frac{1}{2}$

G $\frac{2}{3}$

H $\frac{1}{4}$

J $\frac{1}{3}$

- 43** The table below shows the number of puzzles Eduardo completed each week. It shows the number of puzzle pieces that he used each week.

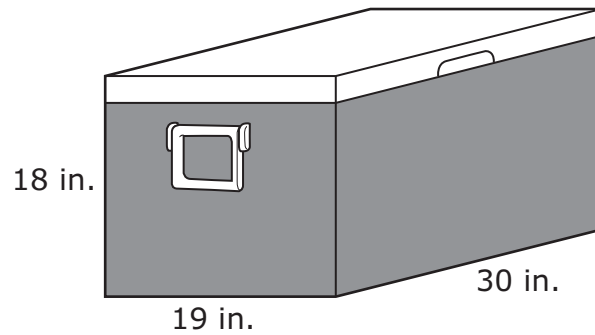
Puzzles

	Week 1	Week 2	Week 3	Week 4	Week 5
Number of Puzzles Completed	10	5	6	4	9
Number of Puzzle Pieces	500	250	300	200	450

Based on the table, the number of puzzles Eduardo completed each week was equal to the number of puzzle pieces that week —

- A** divided by 2
- B** divided by 50
- C** minus 250
- D** minus 5

- 44** Mr. Williams brought an ice chest filled with water bottles to band practice. A model of the ice chest is shown below.



What is the volume, in cubic inches, of the ice chest?

- F** 13,760 cubic inches
- G** 570 cubic inches
- H** 67 cubic inches
- J** 10,260 cubic inches

45 The table below shows the scores for two divers at a diving championship.

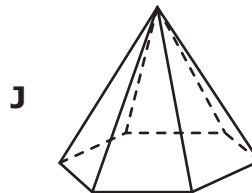
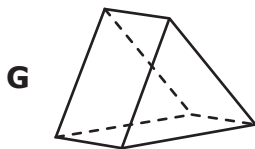
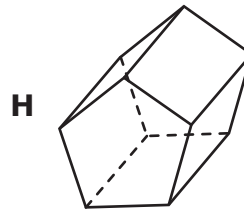
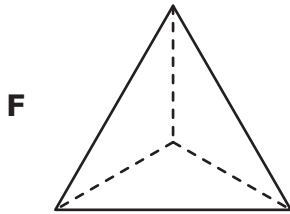
Diving Championship

Diver	Score
Carl	399.8
Eric	462.25

What is the difference between these two scores?

- A 73.45
- B 137.65
- C 62.45
- D 173.45

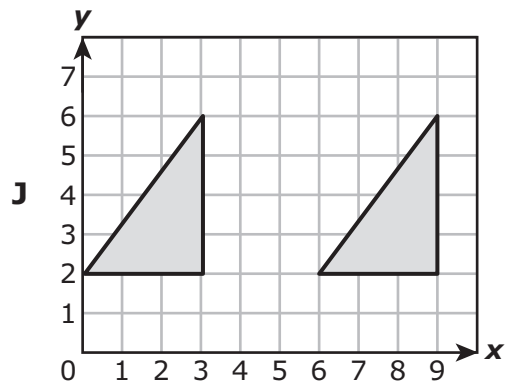
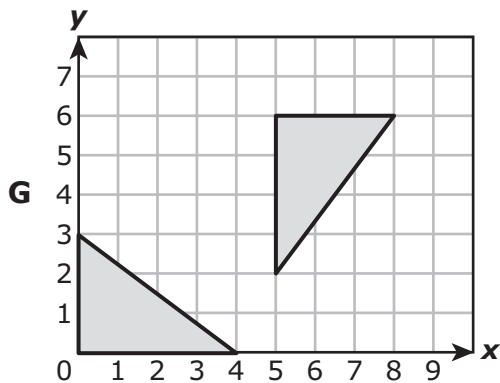
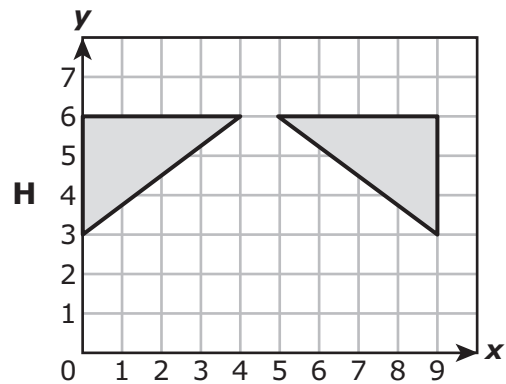
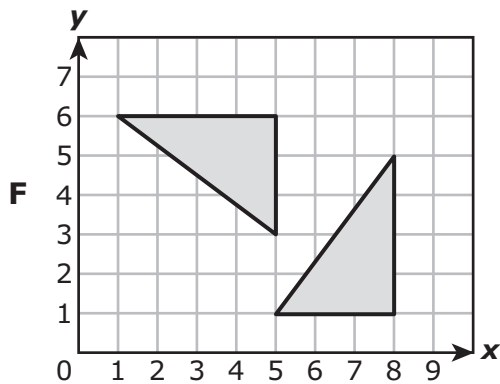
46 Which figure appears to have exactly 2 congruent triangular faces?



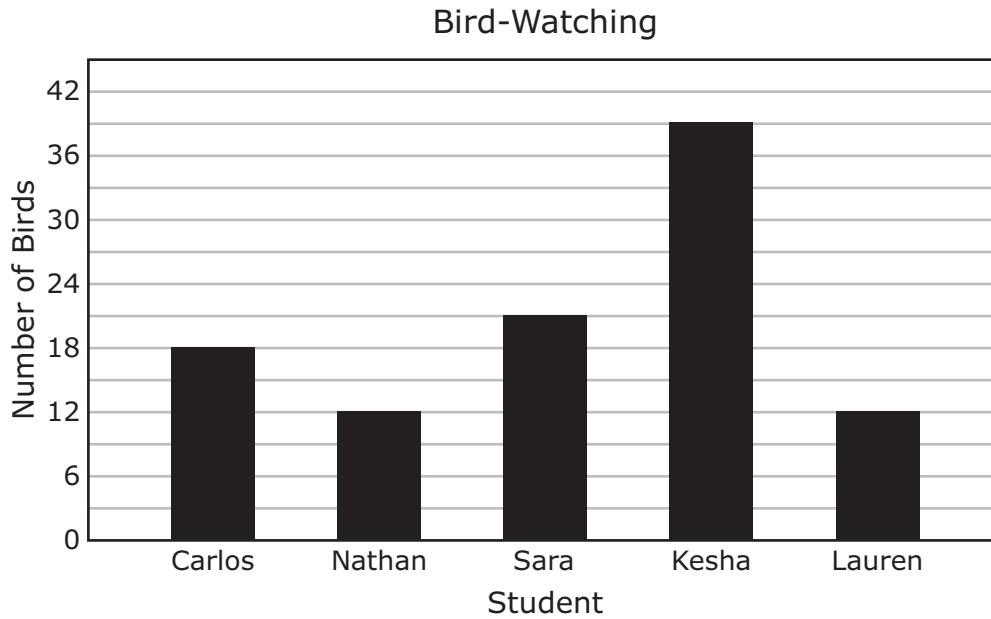
47 A conference center has 12 rooms that each have a floor area of 875 square feet and 6 rooms that each have a floor area of 950 square feet. What is the total floor area, in square feet, of these rooms?

- A** 10,500 square feet
- B** 8,325 square feet
- C** 16,200 square feet
- D** 15,900 square feet

48 Which coordinate grid shows only a translation?



49 The graph shows the number of birds seen by several students on a field trip.



What is the range of the number of birds seen by these students?

- A 18
- B 30
- C 27
- D 12

50 Wesley has 480 stamps in his collection. He puts these stamps into display cases. Each display case contains 15 stamps. How many display cases does Wesley need for his stamp collection?

F 32

G 212

H 36

J 465

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



**STAAR
GRADE 5
Mathematics
April 2014**