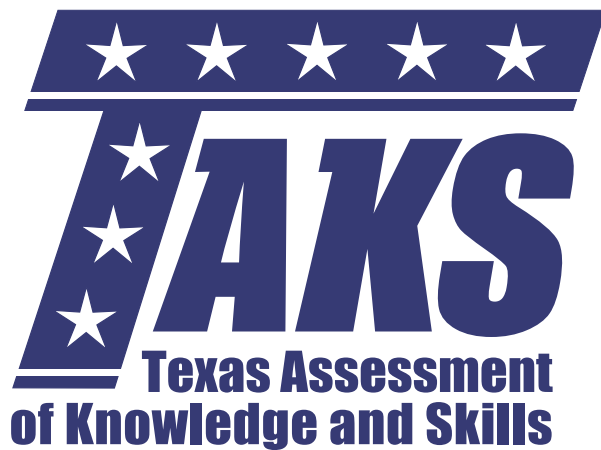


STUDENT NAME \_\_\_\_\_



**EXIT LEVEL  
MATHEMATICS**

**Administered April 2009**



# MATHEMATICS



# Mathematics Chart

## LENGTH

### Metric

1 kilometer = 1000 meters  
1 meter = 100 centimeters  
1 centimeter = 10 millimeters

### Customary

1 mile = 1760 yards  
1 mile = 5280 feet  
1 yard = 3 feet  
1 foot = 12 inches

## CAPACITY AND VOLUME

### Metric

1 liter = 1000 milliliters

### Customary

1 gallon = 4 quarts  
1 gallon = 128 fluid ounces  
1 quart = 2 pints  
1 pint = 2 cups  
1 cup = 8 fluid ounces

## MASS AND WEIGHT

### Metric

1 kilogram = 1000 grams  
1 gram = 1000 milligrams

### Customary

1 ton = 2000 pounds  
1 pound = 16 ounces

## TIME

1 year = 365 days  
1 year = 12 months  
1 year = 52 weeks  
1 week = 7 days  
1 day = 24 hours  
1 hour = 60 minutes  
1 minute = 60 seconds

Metric and customary rulers can be found on the separate Mathematics Chart.

# Mathematics Chart

<b>Perimeter</b>	rectangle	$P = 2l + 2w$ or $P = 2(l + w)$
<b>Circumference</b>	circle	$C = 2\pi r$ or $C = \pi d$
<b>Area</b>	rectangle	$A = lw$ or $A = bh$
	triangle	$A = \frac{1}{2}bh$ or $A = \frac{bh}{2}$
	trapezoid	$A = \frac{1}{2}(b_1 + b_2)h$ or $A = \frac{(b_1 + b_2)h}{2}$
	regular polygon	$A = \frac{1}{2}aP$
	circle	$A = \pi r^2$
<i>P</i> represents the Perimeter of the Base of a three-dimensional figure.		
<i>B</i> represents the Area of the Base of a three-dimensional figure.		
<b>Surface Area</b>	cube (total)	$S = 6s^2$
	prism (lateral)	$S = Ph$
	prism (total)	$S = Ph + 2B$
	pyramid (lateral)	$S = \frac{1}{2}Pl$
	pyramid (total)	$S = \frac{1}{2}Pl + B$
	cylinder (lateral)	$S = 2\pi rh$
	cylinder (total)	$S = 2\pi rh + 2\pi r^2$ or $S = 2\pi r(h + r)$
	cone (lateral)	$S = \pi rl$
	cone (total)	$S = \pi rl + \pi r^2$ or $S = \pi r(l + r)$
	sphere	$S = 4\pi r^2$
	<b>Volume</b>	prism or cylinder
pyramid or cone		$V = \frac{1}{3}Bh$
sphere		$V = \frac{4}{3}\pi r^3$
<b>Special Right Triangles</b>	30°, 60°, 90°	$x, x\sqrt{3}, 2x$
	45°, 45°, 90°	$x, x, x\sqrt{2}$
<b>Pythagorean Theorem</b>		$a^2 + b^2 = c^2$
<b>Distance Formula</b>		$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$
<b>Slope of a Line</b>		$m = \frac{y_2 - y_1}{x_2 - x_1}$
<b>Midpoint Formula</b>		$M = \left( \frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$
<b>Quadratic Formula</b>		$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
<b>Slope-Intercept Form of an Equation</b>		$y = mx + b$
<b>Point-Slope Form of an Equation</b>		$y - y_1 = m(x - x_1)$
<b>Standard Form of an Equation</b>		$Ax + By = C$
<b>Simple Interest Formula</b>		$I = prt$

## DIRECTIONS

Read each question. Then fill in the correct answer on your answer document. If a correct answer is not here, mark the letter for “Not here.”

### SAMPLE A

Find the slope of the line  $2y = 8x - 3$ .

A  $-\frac{3}{2}$

B 4

C 8

D Not here

### SAMPLE B

Janice uses a rectangular box to store her art supplies. The dimensions of the rectangular box are 22.5 inches by 14 inches by 11.5 inches. What is the volume of this box in cubic inches?

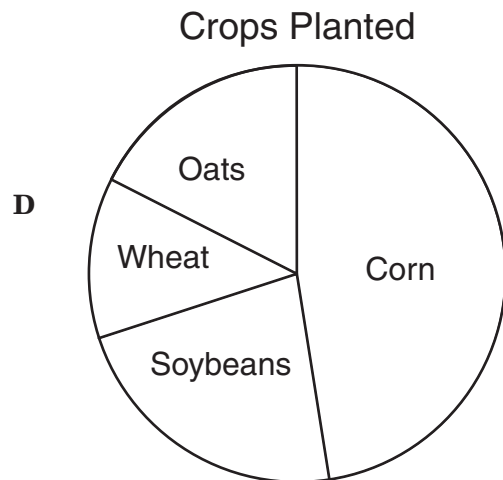
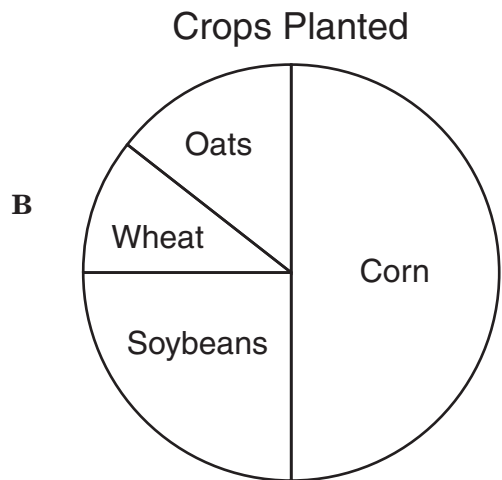
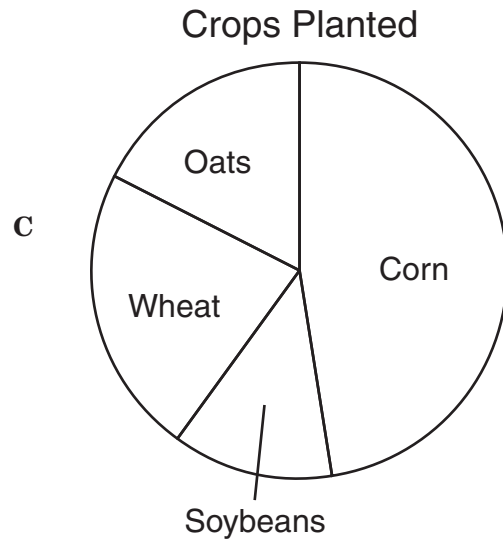
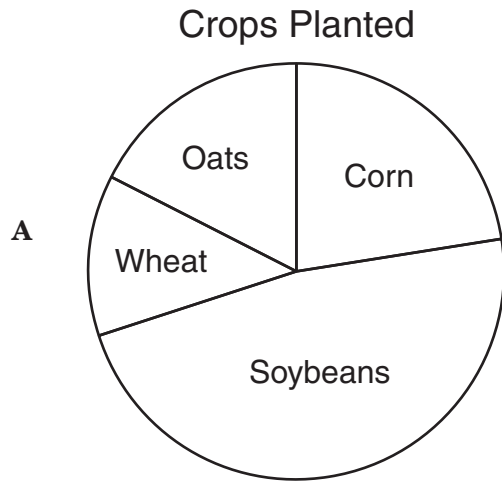
Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.



1 Ms. Ugalde has an 80-acre farm.

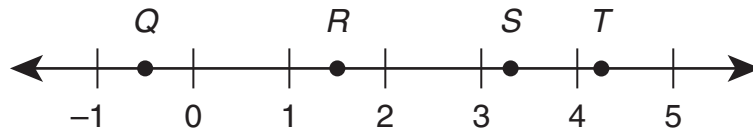
- 38 acres are used for planting corn.
- 18 acres are used for planting soybeans.
- 10 acres are used for planting wheat.

The remaining acres are used for planting oats. Which of the following graphs best represents these data?





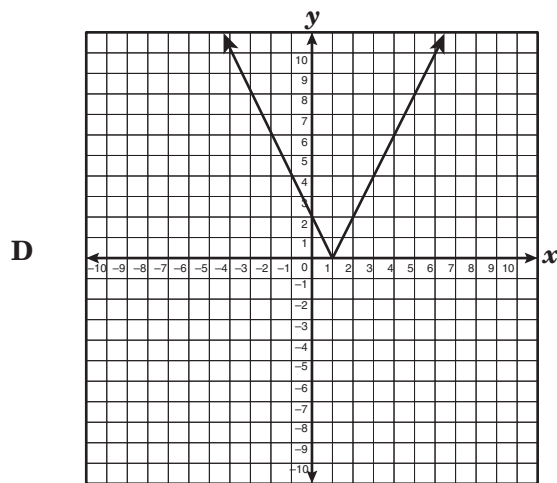
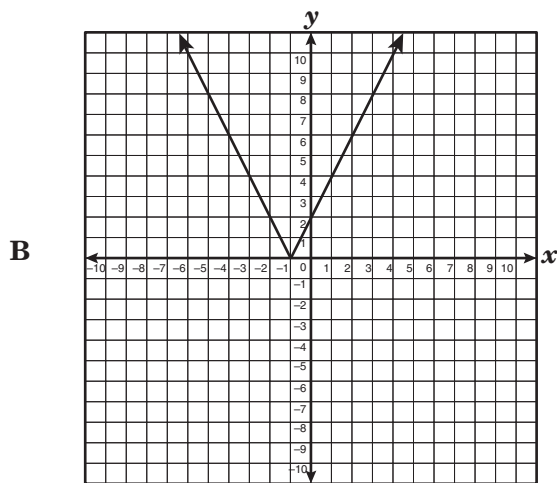
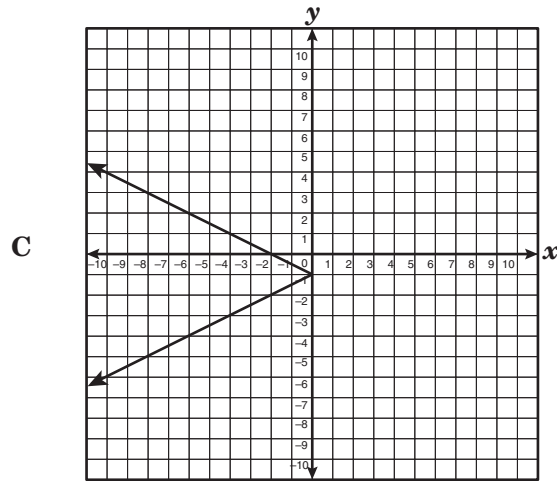
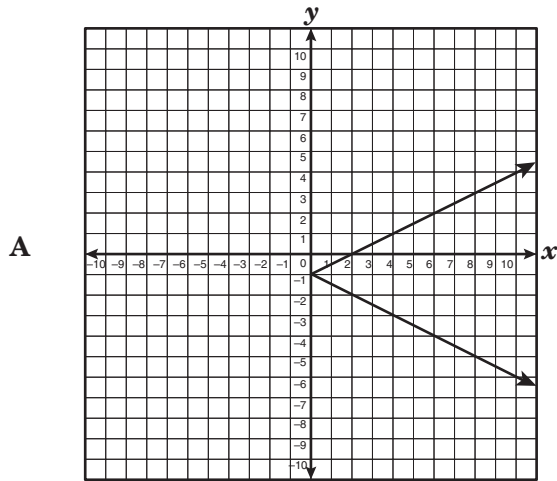
2 Which point on the number line below is farthest away from  $\sqrt{6}$ ?



- F Point *Q*
- G Point *R*
- H Point *S*
- J Point *T*

3 Which graph best represents the relationship in the table below?

$x$	$y$
-2	2
-1	0
0	2
1	4
2	6



- 4 If the graph of  $y = 19x^2 + 31$  is translated up 15 units, which of the following equations will best describe the resulting graph?

**F**  $y = 34x^2 + 31$

**G**  $y = 34x^2 + 46$

**H**  $y = 19x^2 + 46$

**J**  $y = 19x^2 + 16$

- 5 A restaurant sold a total of 418 large and small hamburgers during one day. Total hamburger sales were \$1077. Large hamburgers sold for \$3, and small hamburgers sold for \$1.50. Which system of linear equations can be used to find  $l$ , the number of large hamburgers sold, and  $s$ , the number of small hamburgers sold?





**A**  $l + s = 1077$   
 $3l + 1.50s = 418$

**B**  $l + s = 418$   
 $3l + 1.50s = 1077$

**C**  $1.50l + 3s = 418$   
 $l + s = 1077$

**D**  $l + s = 418$   
 $1.50l + 3s = 1077$

- 6 The table below shows the number of line segments that can be drawn between a given number of points.

Number of Points	1	2	3	4
Points				
Number of Line Segments	0	1	3	6

Which expression can be used to determine the number of line segments that can be drawn between  $n$  points?

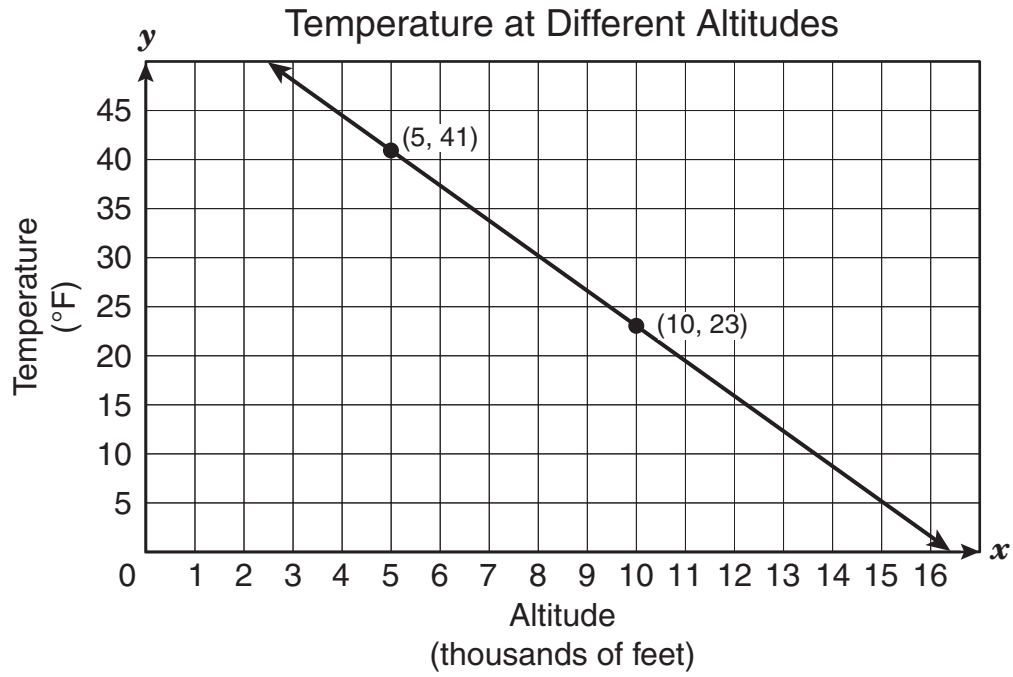
F  $\frac{3}{2}n$

G  $n - 1$

H  $n^2 - 2n$

J  $\frac{n(n-1)}{2}$

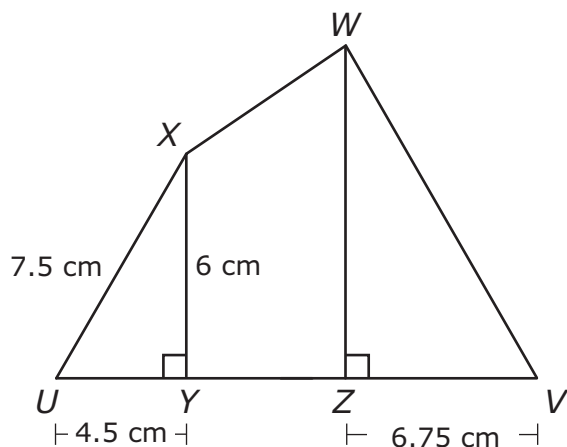
- 7 Scientists developed the linear model below to show the relationship between altitude, or elevation above sea level (0 feet), and air temperature.



According to the model, what would be the air temperature at an altitude of 0 feet?

- A 16°F
- B 45°F
- C 59°F
- D 77°F

- 8 Quadrilateral  $UVWX$  is shown below.



If  $\triangle UYX$  and  $\triangle VZW$  are similar, which of the following is closest to the area of  $\triangle VZW$ ?

- F  $61 \text{ cm}^2$
- G  $38 \text{ cm}^2$
- H  $30 \text{ cm}^2$
- J  $9 \text{ cm}^2$

- 9 A total of 1755 customers at an electronics store were asked to identify which item they planned to purchase in the next month. The table below shows the results of the survey.

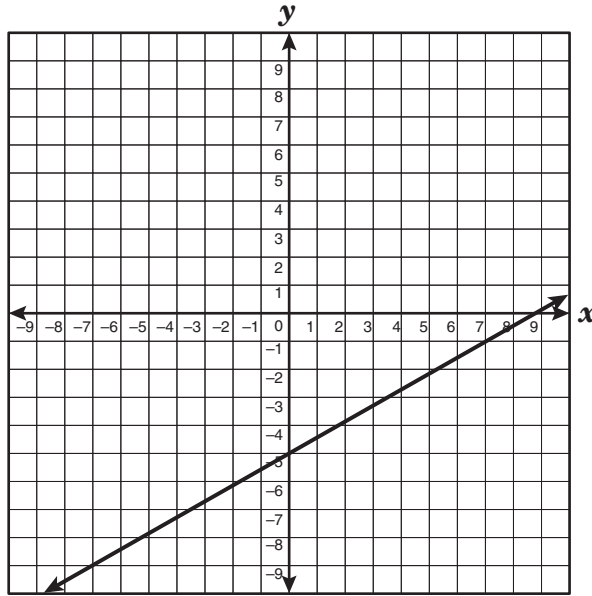
Results of Customer Survey

Item	Number of Customers
Video camera	598
DVD player	264
Television	325
Desktop computer	312
Laptop computer	256

According to the information above, which of the following statements is true?

- A About  $\frac{3}{20}$  of the customers planned to purchase a DVD player.
- B About  $\frac{1}{19}$  of the customers planned to purchase a television.
- C About  $\frac{2}{3}$  of the customers planned to purchase a laptop computer.
- D More than  $\frac{1}{2}$  of the customers planned to purchase either a computer or a DVD player.

10 Which equation is the parent function of the graph shown below?



- F**  $y = |x|$
- G**  $y = \sqrt{x}$
- H**  $y = x^2$
- J**  $y = x$

- 11 During a sale at a shoe store, all shoes were 25% off the original price. Which statement best describes the functional relationship between the sale price of a pair of shoes and the original price?
- A** The sale price is dependent on the original price.
  - B** The original price is dependent on the sale price.
  - C** The sale price and the original price are independent of each other.
  - D** The sale price is dependent on the number of pairs of shoes purchased.

**12** Circle  $Q$  has a diameter  $\overline{WY}$ . Point  $W$  is located at  $(3, -2)$ , and point  $Y$  is located at  $(5, -6)$ . Which of the following ordered pairs represents point  $Q$ , the center of the circle?

- F**  $(8, -8)$
- G**  $(4, -4)$
- H**  $(-1.5, 1.5)$
- J**  $(3, -6)$

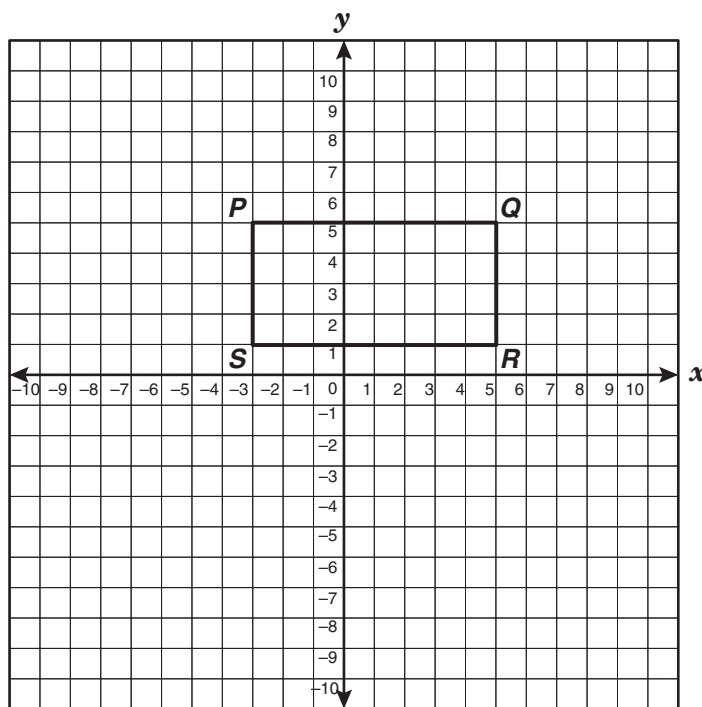
**13** Ms. Rodríguez plans to order from 20 to 26 books for her class. The prices of the books she plans to order range from \$4.95 to \$12.95 each. If the publisher charges a shipping fee of \$0.50 per book ordered, which of the following is not a reasonable price for the books, including shipping?

- A** \$145
- B** \$245
- C** \$345
- D** \$445



- 14 Barbara graphs a family of equations of the form  $y = ax^2 + 1$ . How does each new graph compare to the previous graph as Barbara increases the value of  $a$  from  $\frac{1}{2}$  to 1 to  $1\frac{1}{2}$  and finally to 2?
- F Each new graph is above the previous graph.
  - G Each new graph is wider than the previous graph.
  - H Each new graph is narrower than the previous graph.
  - J Each new graph is to the right of the previous graph.

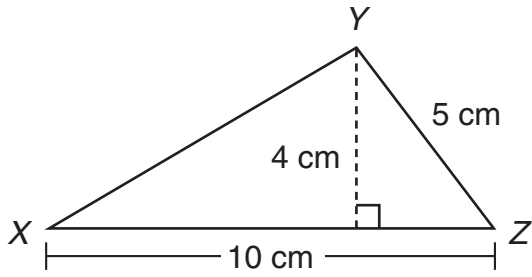
- 15 Rectangle  $PQRS$  is shown on the grid below.



Which equation best represents a line that is parallel to  $\overline{PR}$ ?

- A  $y = 2x - 5$
- B  $y = -2x + 4$
- C  $y = \frac{1}{2}x - 2$
- D  $y = -\frac{1}{2}x + 7$

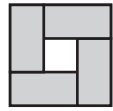
16 Triangle  $XYZ$  is shown below.



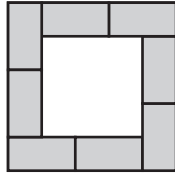
What is the length of  $\overline{XY}$ ?

- F  $\sqrt{65}$  cm
- G  $\sqrt{33}$  cm
- H  $\sqrt{75}$  cm
- J  $\sqrt{116}$  cm

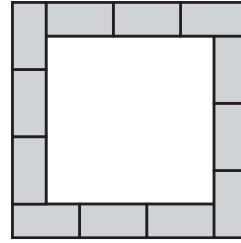
- 17 Each square design below is made up of rectangles of equal size. Each rectangle is twice as long as it is wide.



12 in.



20 in.

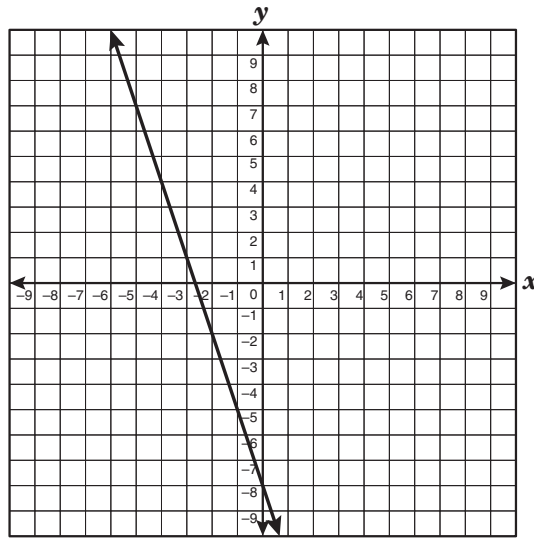


28 in.

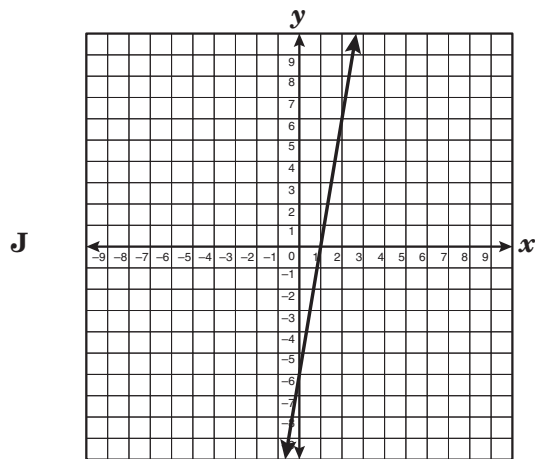
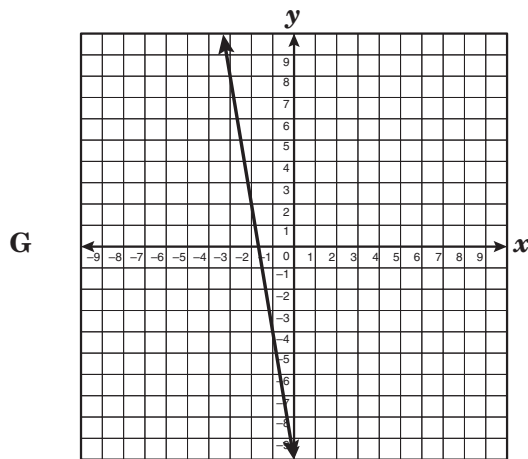
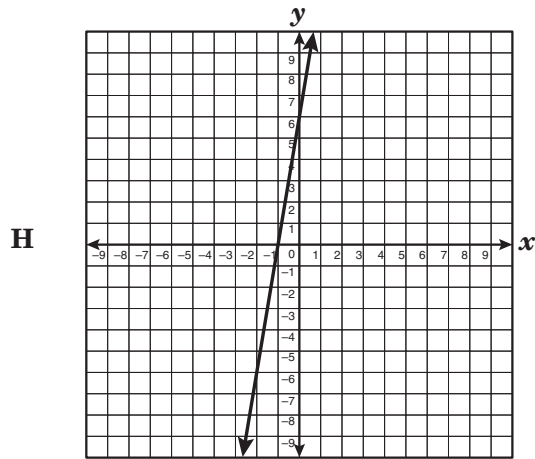
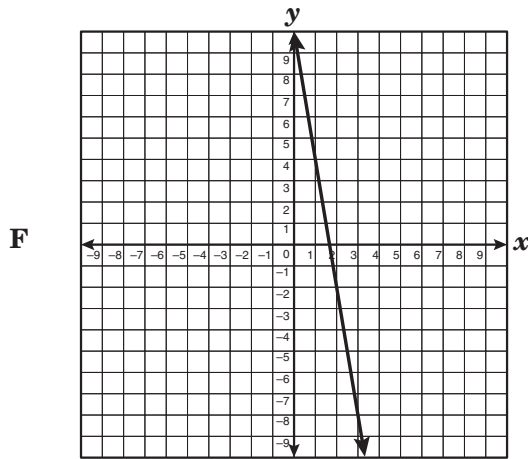
Within the same design, which of the following is possible?

- A A square with a side length of 68 made up of 36 rectangles
- B A square with a side length of 80 made up of 40 rectangles
- C A square with a side length of 76 made up of 32 rectangles
- D A square with a side length of 52 made up of 24 rectangles

18 The function  $y = -3x - 8$  is graphed below.



In the function above, the slope will be multiplied by  $-2$ , and the  $y$ -value of the  $y$ -intercept will be increased by 2 units. Which of the following graphs best represents the new function?



**19** Wesley and Delia are playing a math game. Wesley gives Delia these steps to follow.

Step 1 Multiply a number by 6 and then subtract 4.

Step 2 Divide the result by 2.

Step 3 Add 3 to the result from the second step.

If Delia's final answer is 19, what was the original number?

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

- 20 Two quantities,  $x$  and  $y$ , are in a relationship in which  $y$  varies directly with  $x$ . The graph of this function contains the point  $(-16, 28)$ . Which of the following represents this relationship?

F  $y = \frac{4}{7}x$

G  $y = -\frac{7}{4}x$

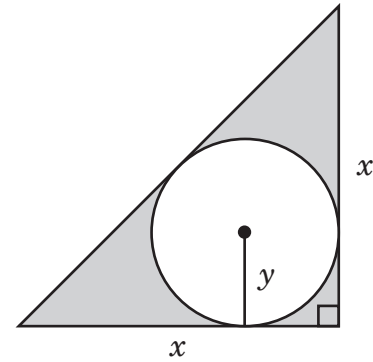
H  $y = -\frac{4}{7}x$

J  $y = \frac{7}{4}x$

- 21 Kevin saves 20% of his total weekly earnings from his 2 part-time jobs. He earns \$5.75 per hour at his first job and \$6.55 per hour at his second job. Kevin works 20 hours this week at the first job and 10 hours this week at the second job. What is the amount that he will save this week?

- A \$36.10  
B \$37.70  
C \$36.90  
D \$34.50

- 22 The diagram below shows a circle inscribed in an isosceles right triangle.



Which equation best represents the area,  $A$ , of the shaded region?

F  $A = x^2 - y^2$

G  $A = \frac{1}{2}x^2 + \pi y^2$

H  $A = \frac{1}{2}x^2 - \pi y^2$

J  $A = x^2 - \pi y^2$

**23** During the second week of summer vacation, Reuben practiced his guitar for 10 minutes less than twice the amount of time he practiced the first week. If he practiced  $m$  minutes the first week, which of the following expressions represents the number of minutes that Reuben practiced during the second week?

- A  $2 - 10m$
- B  $10 - 2m$
- C  $2m - 10$
- D  $10m - 2$

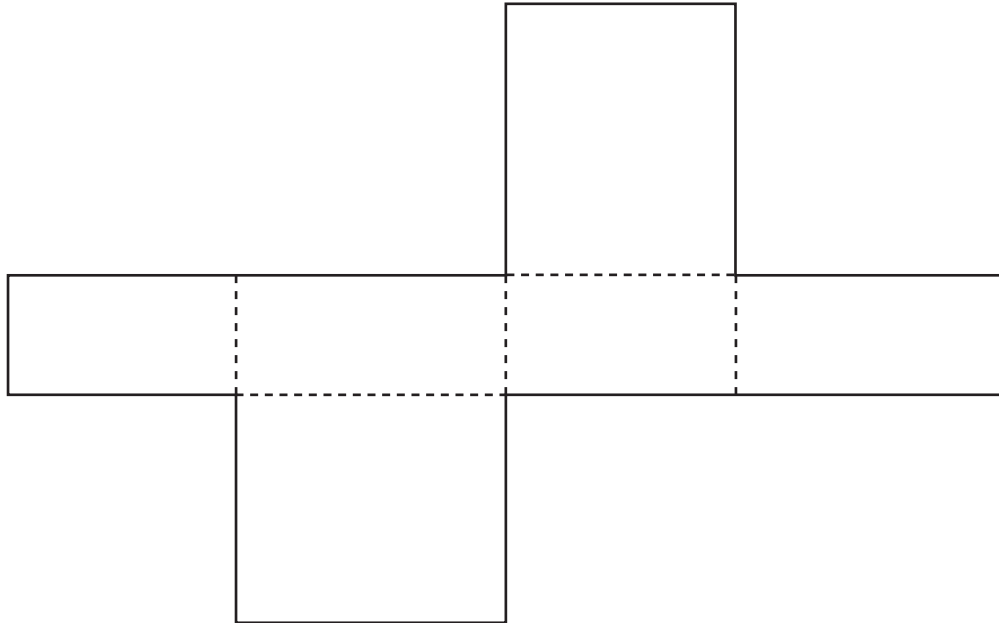
**24** The length of a rectangle is  $4r^2s^5t^3$  units, and the rectangle's area is  $20r^5s^7t^4$  square units. If  $r \neq 0$ ,  $s \neq 0$ , and  $t \neq 0$ , which of the following best describes the width of the rectangle?

- F  $5r^3s^2t$  units
- G  $5r^7s^{12}t^7$  units
- H  $16r^3s^2t$  units
- J  $24r^7s^{12}t^7$  units

**25** A city bus collected \$780 in fares on one day. The price of a regular fare was \$0.80, and the price of a discount fare was \$0.40. If a total of 1200 people paid the fares on this bus, how many people paid the regular fare?

- A 1000
- B 1950
- C 600
- D 750

- 26 The drawing below shows the net of a rectangular prism. Use the ruler on the Mathematics Chart to measure the dimensions of the net to the nearest tenth of a centimeter.

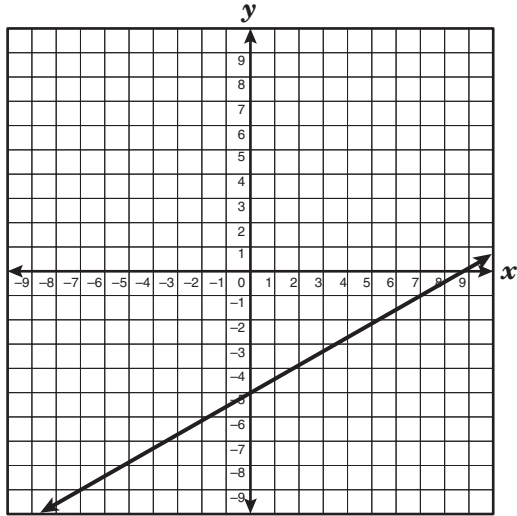


If the net is folded to form the rectangular prism, which of the following is closest to the prism's volume?

- F**  $17.3 \text{ cm}^3$   
**G**  $5.8 \text{ cm}^3$   
**H**  $4.8 \text{ cm}^3$   
**J**  $10.8 \text{ cm}^3$
- 
- 27 Michelle's cellular-phone company offers a plan that allows 300 minutes of use for \$29.95 per month and charges \$0.19 for each additional minute. All prices include tax and fees. Michelle has budgeted \$50 per month for calls on her cellular phone. What is the maximum number of minutes that she can use her cellular phone each month without spending more than \$50?
- A** 405 min  
**B** 105 min  
**C** 406 min  
**D** 106 min

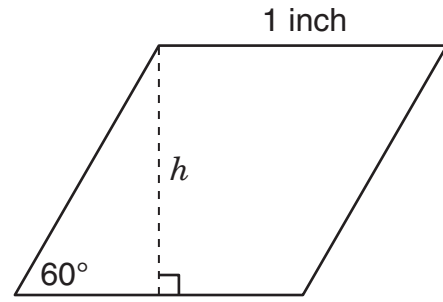


- 28 Which equation best represents the line graphed below?



- F  $7x + 4y = 35$
- G  $4x - 7y = 35$
- H  $4x + 7y = -35$
- J  $7x - 4y = -35$

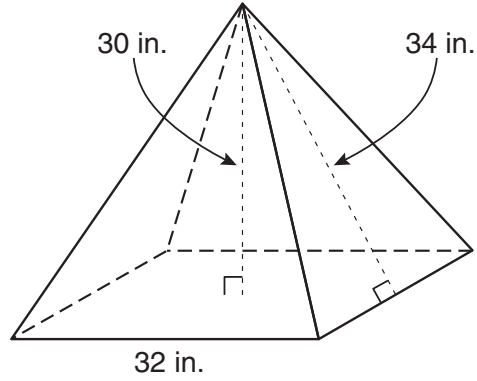
- 29 A rhombus is shown below.



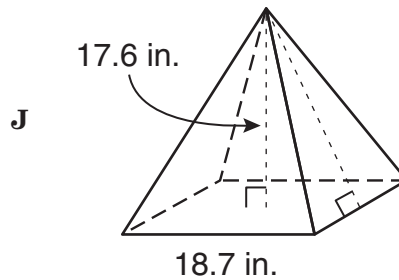
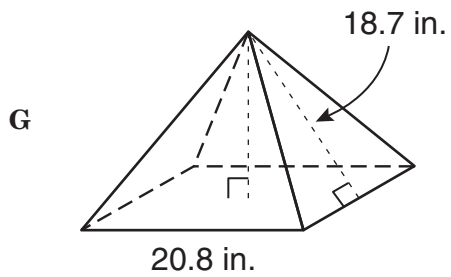
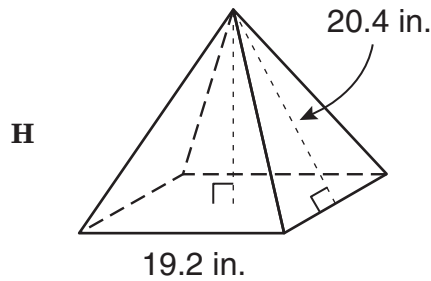
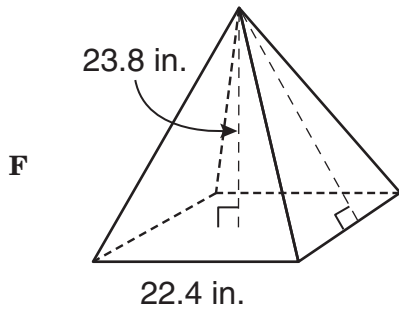
If the height,  $h$ , intersects the base at its midpoint, which of these is closest to the height of the rhombus?

- A 0.9 inch
- B 0.7 inch
- C 1.4 inches
- D 1.7 inches

- 30 The figure below shows a square pyramid with a base length of 32 inches and a slant height of 34 inches.



Which of the following square pyramids is similar to the square pyramid above?



- 31** The function below shows a relationship between  $x$  and  $y$ .

$$y = 7x + 3$$

If the value of  $x$  increases by 1, what happens to the value of  $y$ ?

- A** The value of  $y$  increases by 3.
- B** The value of  $y$  increases by 7.
- C** The value of  $y$  increases by 10.
- D** The value of  $y$  increases by 21.

- 32 At an ice-cream shop, customers can order a sundae with 1 type of ice cream, 1 type of sauce, and 1 type of topping. The types of ice cream, sauces, and toppings offered are shown below.

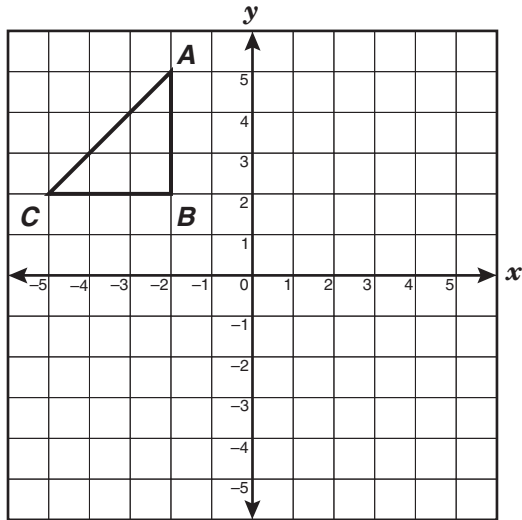
### Choices at an Ice-Cream Shop

Ice Cream	Sauce	Topping
Chocolate	Caramel	Chocolate chips
Strawberry	Strawberry	Peanuts
Vanilla	Chocolate	Raisins
	Butterscotch	Strawberries
		Walnuts

If each type of ice cream, sauce, and topping is equally likely to be selected, what is the probability that a customer will order a sundae with vanilla ice cream, caramel sauce, and walnuts?

- F  $\frac{1}{60}$
- G  $\frac{1}{4}$
- H  $\frac{1}{11}$
- J  $\frac{1}{12}$

- 33  $\triangle ABC$  has vertices  $A(-2, 5)$ ,  $B(-2, 2)$ , and  $C(-5, 2)$ .



If  $\triangle ABC$  is reflected across the line  $y = x$ , which of the following will be the coordinates of  $A$ ?

- A  $(-2, -5)$
- B  $(5, -2)$
- C  $(2, 5)$
- D  $(-5, 2)$

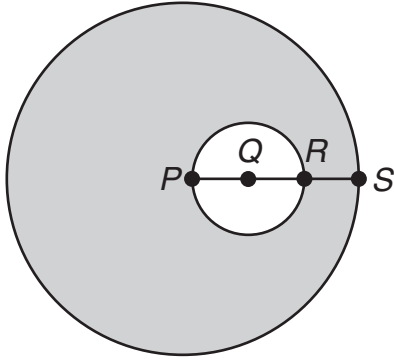
- 34 Carl was asked to solve the problem shown in the box below.

A certain type of cube has 2-inch edges. What is the maximum number of cubes that can be put into a box that measures 2.7 feet by 3.2 feet by 4.1 feet?

Which of the following could Carl do to solve the problem correctly?

- F Add the dimensions given in feet
- G Multiply each dimension given in feet by 2 inches
- H Convert 2 inches into 24 feet
- J Convert the dimensions of the box from feet to inches

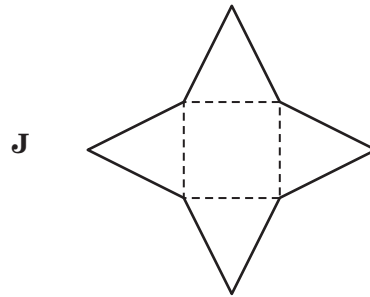
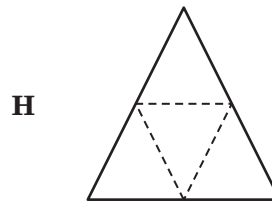
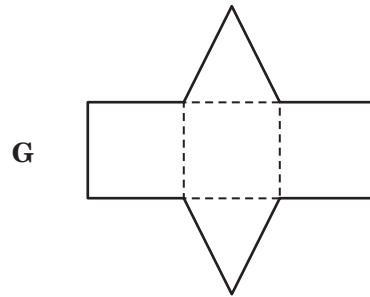
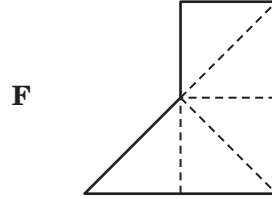
- 35 The figure below shows circle  $P$  and circle  $Q$ .  $\overline{PQ}$ ,  $\overline{QR}$ , and  $\overline{RS}$  are each 3 units long.



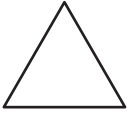
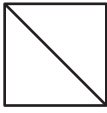
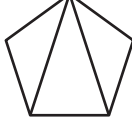

What is the area of the shaded region in terms of  $\pi$ ?

- A  $36\pi$
- B  $72\pi$
- C  $12\pi$
- D  $78\pi$

- 36 Which of the following nets forms a triangular pyramid?



- 37 The table below shows how many triangles are formed when all the diagonals are drawn from one vertex in different regular polygons.

Number of Sides	3	4	5	6
Regular Polygon				
Number of Triangles	1	2	3	4

Based on the table, which of the following statements is true?

- A All the triangles formed in each regular polygon are congruent.
- B All the triangles formed in each regular polygon are isosceles.
- C The number of triangles formed in any regular polygon is 2 less than the number of sides in the polygon.
- D The number of triangles formed in any regular polygon is half the number of sides in the polygon.

- 38 In Figure 1 a cylinder with a diameter of 12 centimeters is filled with water to a height of 8 centimeters.

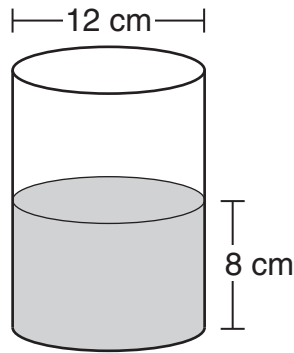


Figure 1

In Figure 2 a rock is submerged in the cylinder.

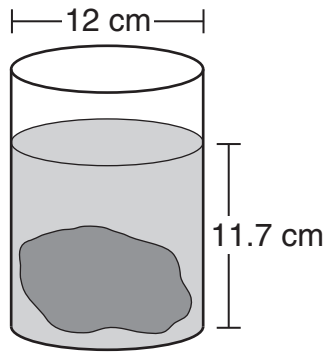


Figure 2

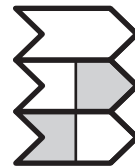
Which of the following is closest to the volume of the rock?

- F  $139 \text{ cm}^3$
- G  $418 \text{ cm}^3$
- H  $1674 \text{ cm}^3$
- J  $1323 \text{ cm}^3$

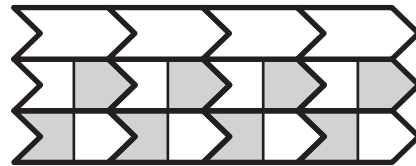
- 39 Which of the following expressions is equivalent to the expression  $-5x(2x + 7y) + 7xy - 4x(y + 3)$ ?

- A  $-10x^2 + 7y + 3xy + 3$
- B  $-10x^2 + 38xy + 12x$
- C  $-10x^2 - 32xy - 12x$
- D  $-10x^2 - 38xy + 12x$

- 40 Chan drew the following design.



He then used the design to create the pattern below.

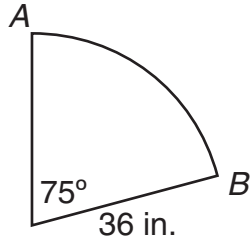


What type of transformation did Chan use to create his pattern?

- F Dilation
- G Reflection
- H Rotation
- J Translation



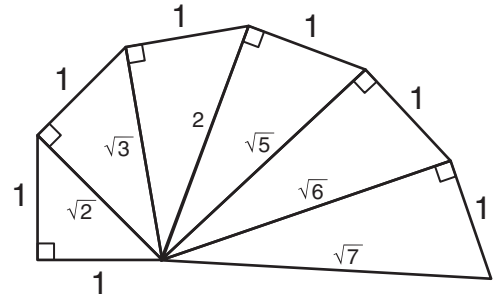
- 41 The diagram below represents a sector of a circle.



Which of the following is closest to the length of  $\widehat{AB}$  if the central angle is  $75^\circ$  and the radius of the circle is 36 inches?

- A 23.6 in.
- B 47.1 in.
- C 179.1 in.
- D 89.5 in.

- 42 Dominique created a pattern using right triangles. She started the pattern with an isosceles right triangle, with each leg measuring 1 unit. The hypotenuse of each successive triangle follows a pattern, as shown in the diagram below.



If Dominique continues this pattern 5 more times, which of the following would be the measure of the final hypotenuse?

- F 12 units
- G  $2\sqrt{5}$  units
- H  $2\sqrt{3}$  units
- J  $\sqrt{11}$  units

- 43 What is the solution set for the equation  $2x^2 - 16x - 96 = 0$ ?
- A  $\{4, 12\}$   
 B  $\{-4, 12\}$   
 C  $\{-4, -12\}$   
 D  $\{4, -12\}$

- 44 The function table shows the values of  $f(n)$  for given values of  $n$ .

$n$	1	2	3	4
$f(n)$	2	2.5	3	3.5

Which function best represents the relationship between the quantities in the table?

- F  $f(n) = n + \frac{1}{2}$   
 G  $f(n) = 2n$   
 H  $f(n) = \frac{n+1}{n}$   
 J  $f(n) = \frac{n+3}{2}$

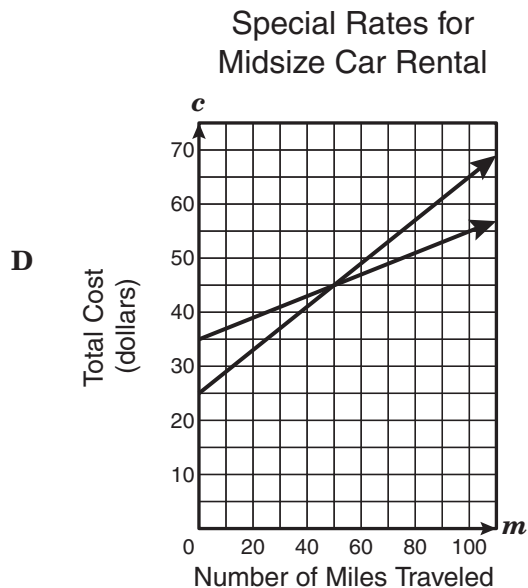
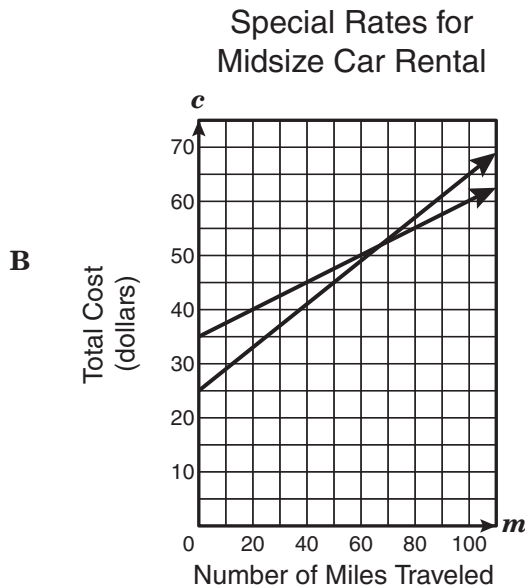
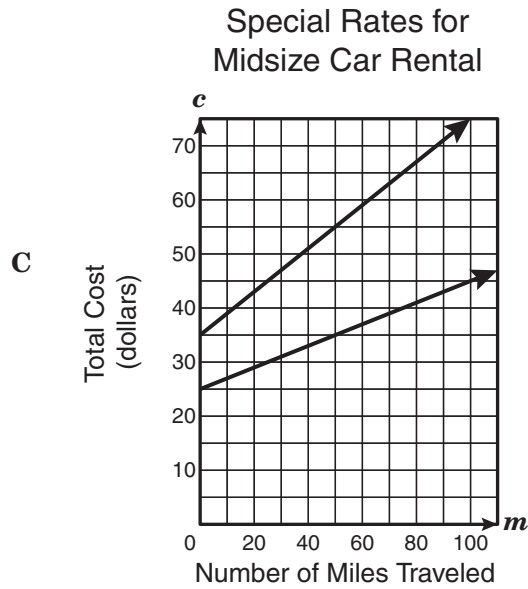
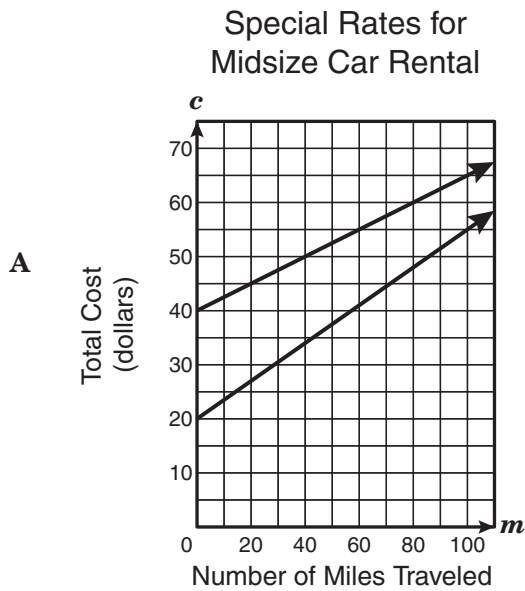
- 45 Denise can assemble a chair in 0.75 hour and a table in 0.4 hour. Which inequality best represents the number of chairs,  $c$ , and the number of tables,  $t$ , that Denise can assemble in one day if she works a maximum of 8 hours?

- A  $(0.75 + 0.4)(c + t) \leq 8$   
 B  $0.75c + 0.4t \geq 8$   
 C  $0.75c + 0.4t \leq 8$   
 D  $(0.75 + c) + (0.4 + t) \geq 8$

- 46 For a regular pentagonal prism, what is the ratio of the number of vertices to the number of edges?

- F 2:3  
 G 3:2  
 H 3:5  
 J 5:3

- 47 Two car-rental companies are advertising special rates for a midsize car. Wendell's Motor Rentals is advertising a rate of \$35 a day plus \$0.20 per mile traveled, tax included. Marina's Car Rentals is advertising a rate of \$25 a day plus \$0.40 per mile traveled, tax included. Which graph correctly compares the cost of renting a midsize car for one day from each company?



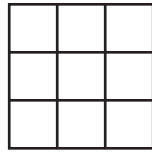
48 Nisha can solve a set of 5 math problems in 12 minutes. At this rate, how long will it take her to solve 20 sets of 7 math problems?

- F 58 minutes
- G 5 hours 16 minutes
- H 48 minutes
- J 5 hours 36 minutes

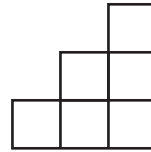
49 For any negative integers  $m$ ,  $n$ ,  $p$ , and  $q$ , which of the following is always true if  $mn < pq$ ?

- A  $q > m$
- B  $-mn > -pq$
- C  $-n < -p$
- D  $nq < mp$

50 The front and right-side views of a figure made of identical cubes are shown below.

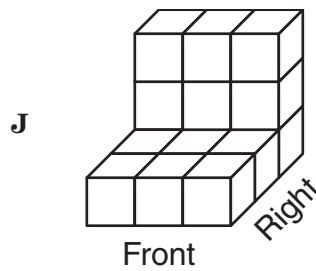
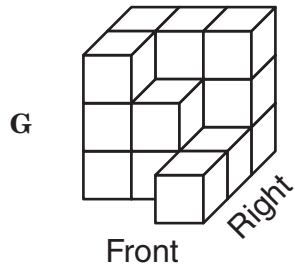
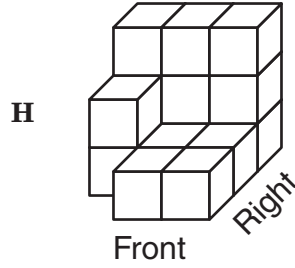
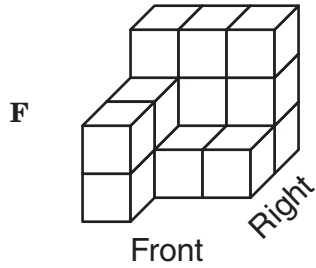


Front view

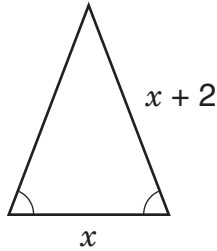


Right-side view

Which 3-dimensional figure is best represented by the two views above?

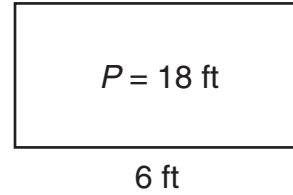


- 51 Which expression represents the perimeter of the triangle below?



- A  $3x + 4$
- B  $\frac{x^2 + 2x}{2}$
- C  $2x + 2$
- D  $x^2 + 2x$
- 52 What is the slope of the linear equation  $101x + 53y = 12$ ?
- F  $-101$
- G  $\frac{12}{53}$
- H  $-\frac{101}{53}$
- J  $\frac{12}{101}$

- 53 The rectangle below has a perimeter of 18 feet with a length of 6 feet.



- A new rectangle is formed by decreasing the width of the original rectangle by 1 foot and keeping the length the same. How will the perimeter of the new rectangle compare with the perimeter of the original rectangle?
- A The perimeter of the new rectangle will be 3 feet shorter than the perimeter of the original rectangle.
- B The perimeter of the new rectangle will be 2 feet shorter than the perimeter of the original rectangle.
- C The perimeter of the new rectangle will be 1 foot shorter than the perimeter of the original rectangle.
- D The perimeter of the new rectangle will be  $\frac{1}{2}$  foot shorter than the perimeter of the original rectangle.

- 54 The table below shows the value of a term in a given position in a sequence of numbers that follows a pattern.

Position	Value of Term
1	$-2\frac{1}{2}$
2	-1
3	$1\frac{1}{2}$
4	5
5	$9\frac{1}{2}$
$n$	?

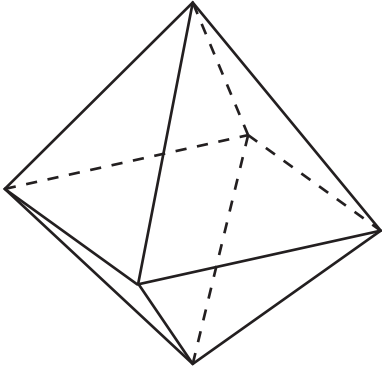
Which expression best represents the value of the  $n$ th term?

- F  $\frac{n^2}{2} - 3$
- G  $\frac{n^2 - 11}{4}$
- H  $\frac{3n^2}{2} - 4$
- J  $\frac{2n^2 - 17}{6}$

- 55 Jalen needs to earn an average of \$120 a week from his part-time job by the end of his 4th week. His first 3 weekly paychecks were for \$95, \$145, and \$130. Which equation can Jalen use to find how much he must earn in the 4th week in order to meet his goal?

- A  $\frac{x + 370}{3} = 120$
- B  $\frac{x + 370}{4} = 120$
- C  $x + 120 = \frac{370}{3}$
- D  $\frac{x + 120}{4} = 370$

- 56 How many vertices does the polyhedron below have?



- F 3
- G 5
- H 8
- J Not here

- 57 Francis, Leon, and Shelby are running for president of their school's student council. A random survey of 60 students was taken to determine whom they planned to vote for in the election. The results are shown in the table below.

Survey Results

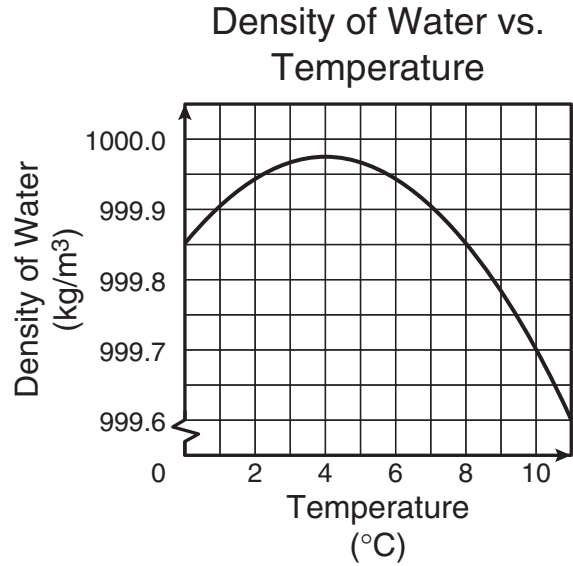
Candidate	Number of Students
Francis	29
Leon	22
Shelby	9

Based on the data in the table, which of the following is the best prediction of the number of students who will vote for Leon if 2500 students vote?

- A 1208
- B 292
- C 916
- D 550



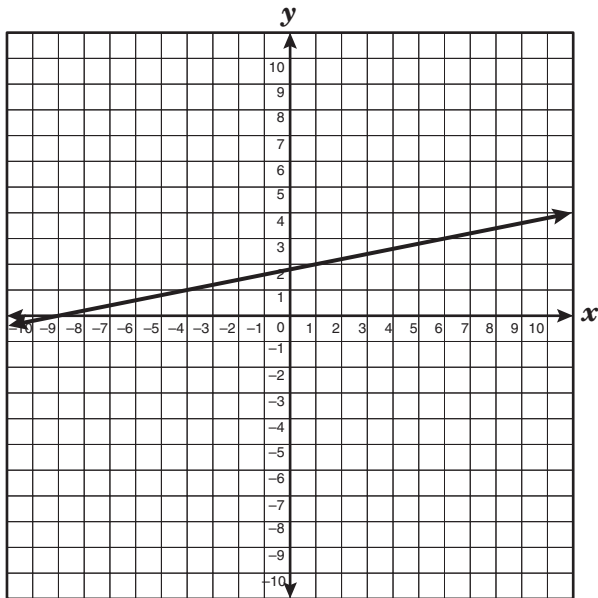
- 58 The graph below represents the relationship between the density of water and the temperature of water.



According to the graph, which of the following intervals best represents the temperature at which the density of water is greater than 999.9 kilograms per cubic meter?

- F Less than 1°C
- G Between 0°C and 4°C
- H Between 4°C and 8°C
- J Between 1°C and 7°C

59 The graph of  $-x + 5y = 9$  is shown below.



Which point represents a solution to this equation?

- A (0, 1)
- B (2, 1)
- C (1, 2)
- D (-7, 0)

60 The height in centimeters,  $h(x)$ , of a human female of European ancestry can be estimated by multiplying the length of the tibia in centimeters,  $x$ , by 2.90 and then adding 61.53 to the product. Which of the following best represents this relationship?

F  $h(x) = (2.90 + x)(61.53)$

G  $h(x) = 2.90(x + 61.53)$

H  $h(x) = 2.90x + 61.53$

J  $h(x) = \frac{x}{2.90} + 61.53$

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



