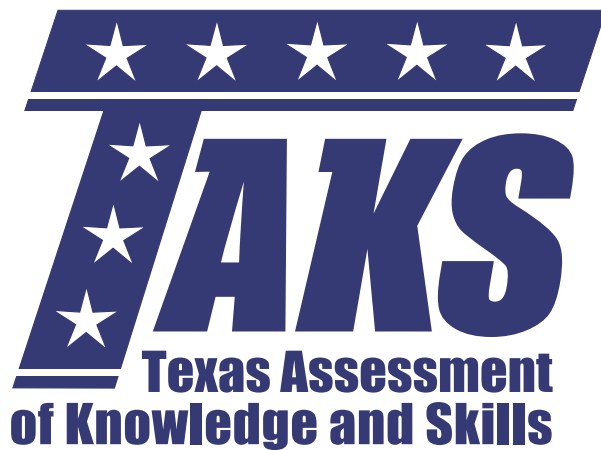


STUDENT NAME _____



**GRADE 10
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

Perimeter	rectangle	$P = 2l + 2w$ or $P = 2(l + w)$
Circumference	circle	$C = 2\pi r$ or $C = \pi d$
Area	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.		
Surface Area	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	$S = 4\pi r^2$
Volume	prism or cylinder	$V = Bh$
	pyramid or cone	$V = \frac{1}{3}Bh$
	sphere	$V = \frac{4}{3}\pi r^3$
Special Right Triangles	30°, 60°, 90°	$x, x\sqrt{3}, 2x$
	45°, 45°, 90°	$x, x, x\sqrt{2}$
Pythagorean Theorem		$a^2 + b^2 = c^2$
Distance Formula		$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$
Slope of a Line		$m = \frac{y_2 - y_1}{x_2 - x_1}$
Midpoint Formula		$M = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$
Quadratic Formula		$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
Slope-Intercept Form of an Equation		$y = mx + b$
Point-Slope Form of an Equation		$y - y_1 = m(x - x_1)$
Standard Form of an Equation		$Ax + By = C$
Simple Interest Formula		$I = prt$

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?

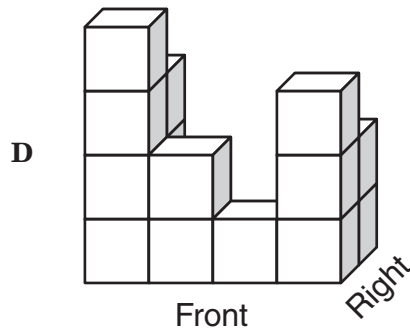
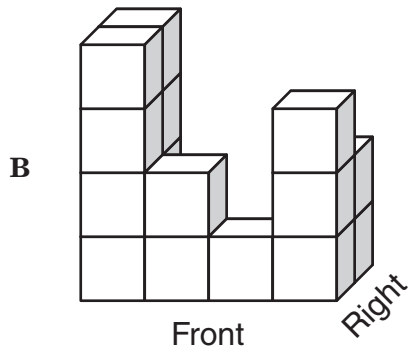
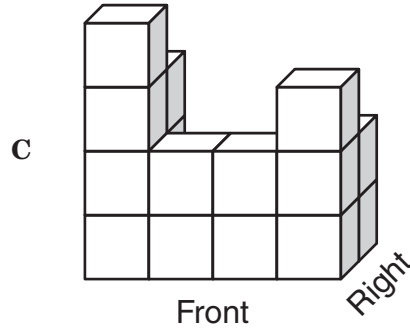
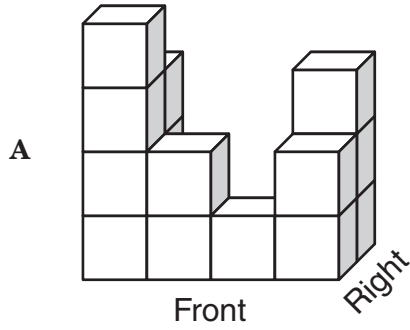
Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.



- 1 The grid below shows the top view of a 3-dimensional structure built using identical cubes. The numbers represent how many cubes are in each column.

3			2	Right
4	2	1	3	
Front				

Which of the following best represents this structure?



- 2 Wesley works at a shoe store. He is paid \$8 an hour plus a 7% commission on his total sales. Which of the following best represents t , Wesley's total weekly earnings if he works 30 hours and has total sales of s dollars?

F $t = 0.08(30) + 0.07s$

G $t = 8(30) + 7s$

H $t = 8(30) + 0.07s$

J $t = 8(30) + 0.7s$

- 3 A toy company plans to make a model of a train engine using a scale where 1 inch represents 4 feet. If the length of the actual engine is 51 feet, which of these is closest to the length of the model in inches?

A $12\frac{3}{4}$ in.

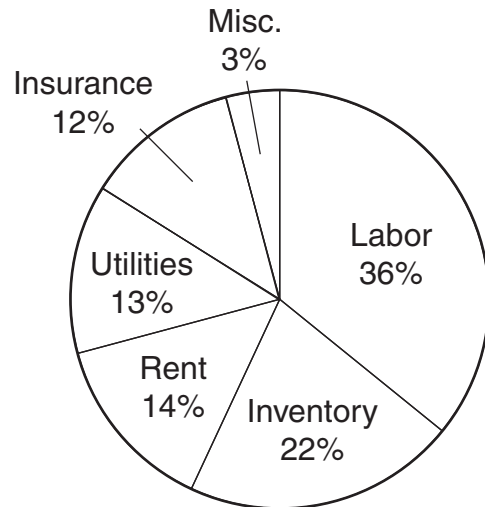
B 3 in.

C 204 in.

D $11\frac{1}{3}$ in.

- 4 Mr. Vincent owns a store that sells auto parts. He budgeted \$24,000 for the store's expenses last month. The graph below shows the percentage of the budget he reserved for each type of expense.

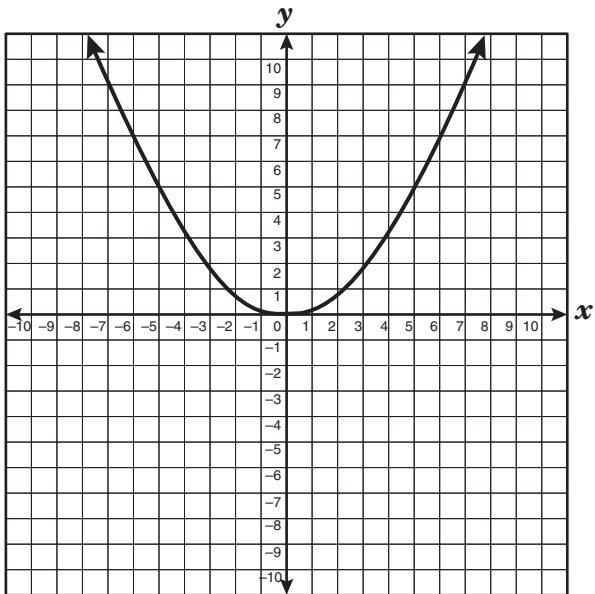
Mr. Vincent's Monthly Budget



Which statement is best supported by the data in the graph?

- F Mr. Vincent budgeted \$15,500 for labor, utilities, and rent.
- G More than 50% of Mr. Vincent's budget was reserved for rent and utilities.
- H Mr. Vincent budgeted \$16,800 for labor, insurance, and inventory.
- J Less than 50% of Mr. Vincent's budget was reserved for labor and inventory.

5 The graph of $y = 0.2x^2$ is shown below.



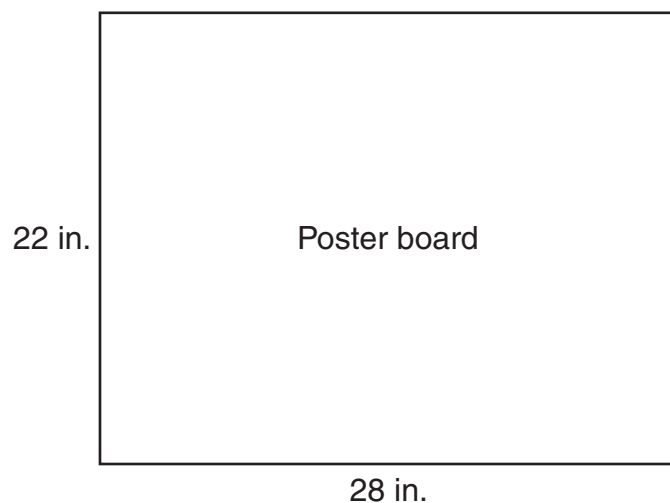
Which of the following equations represents a graph that is wider than the graph of $y = 0.2x^2$?

- A $y = 0.3x^2$
- B $y = 0.2x^2 + 1$
- C $y = 0.1x^2$
- D $y = 0.2x^2 - 1$

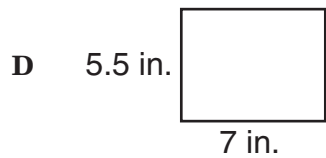
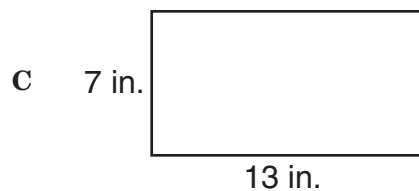
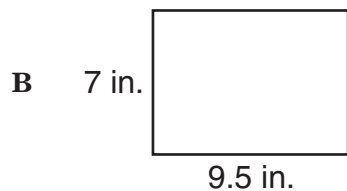
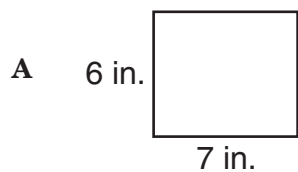
6 Which expression is equivalent to $5[4 + 3(x - 6)]$?

- F $15x - 10$
- G $15x - 70$
- H $15x - 14$
- J $15x - 110$

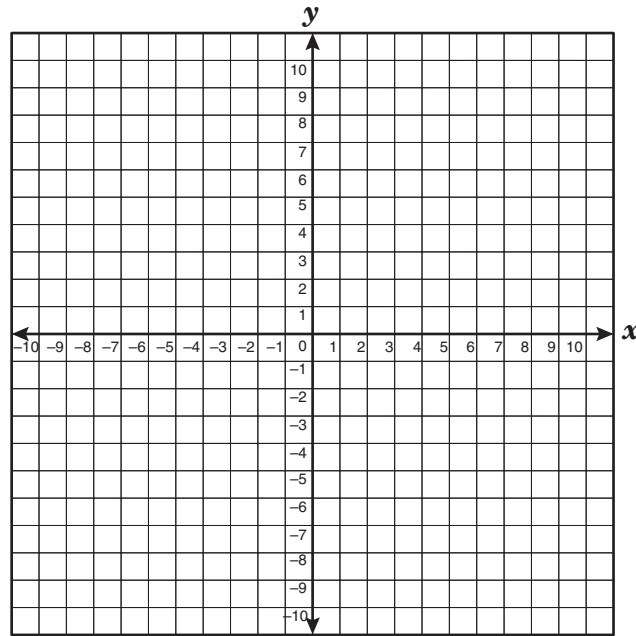
- 7 The dimensions of a rectangular poster board are shown below.



Which rectangle can be dilated to fit the exact dimensions of this poster board?



- 8 What is the equation of the line that passes through the point (9, 2) and has a y-intercept of (0, 5)?



F $y = \frac{1}{3}x + 5$

G $y = 2x + 5$

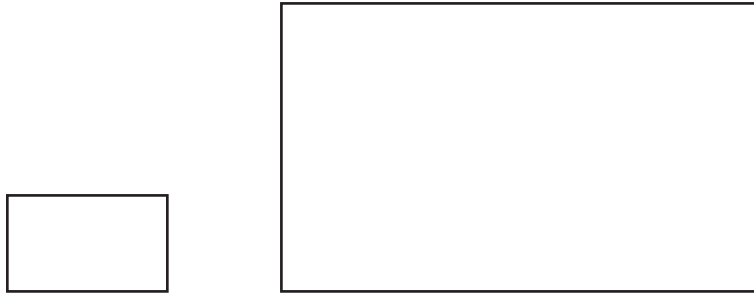
H $y = -\frac{1}{3}x + 5$

J $y = 5x + 9$

-
- 9 Jeri can row a boat at a speed of 8 miles per hour with the current. The number of miles, m , she rows with the current in h hours can be represented by the function $m = 8h$. Which of the following represents the dependent quantity in this function?

- A The weight of Jeri's boat
- B The speed of the current
- C The amount of time Jeri rows
- D The number of miles Jeri rows

- 10 The two rectangles shown below are similar. The ratio of the length of the larger rectangle to the length of the smaller rectangle is 3:1.



Which of the following statements is true?

- F** The area of the smaller rectangle is $\frac{1}{4}$ the area of the larger rectangle.
- G** The area of the larger rectangle is 3 times the area of the smaller rectangle.
- H** The perimeter of the smaller rectangle is $\frac{1}{3}$ the perimeter of the larger rectangle.
- J** The perimeter of the larger rectangle is 6 times the perimeter of the smaller rectangle.
-
- 11 Jason had \$87 in his savings account. He then worked for 2 weeks, earning \$5.75 per hour, and deposited all the money he earned into his savings account. The account then had a balance of \$271. Which method can be used to find the number of hours Jason worked?
- A** Subtract 87 from 271 and then divide the difference by 5.75
- B** Subtract 87 from 271 and then multiply the difference by 5.75
- C** Add 87 to 271 and then divide the sum by 5.75
- D** Add 87 to 271 and then multiply the sum by 5.75

- 12 The tables below show the amount of data in kilobytes that was downloaded by a computer over time. Which of the following tables best represents a linear function?

Kilobytes Downloaded

Time (seconds)	Number of Kilobytes
10	65
20	130
30	180
40	215

F

Kilobytes Downloaded

Time (seconds)	Number of Kilobytes
10	35
20	80
30	125
40	150

H

Kilobytes Downloaded

Time (seconds)	Number of Kilobytes
10	40
20	80
30	110
40	140

G

Kilobytes Downloaded

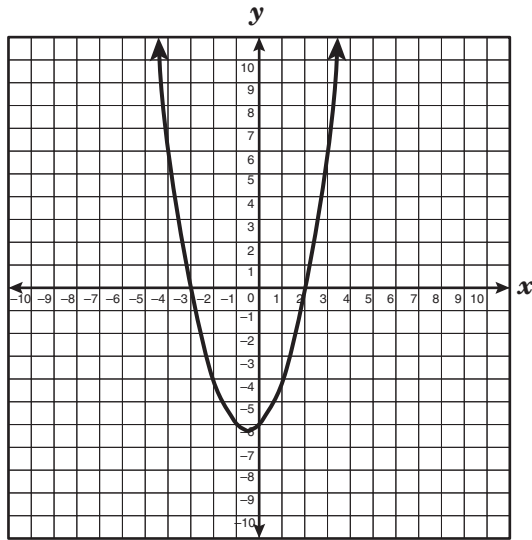
Time (seconds)	Number of Kilobytes
10	45
20	90
30	135
40	180

J

- 13 $\triangle LPT$ is an obtuse scalene triangle. If $\angle P$ is the obtuse angle in $\triangle LPT$, which of the following is not a valid conclusion?

- A $m\angle L + m\angle T < m\angle P$
- B $m\angle P + m\angle T < 90^\circ$
- C $m\angle L + m\angle T < 90^\circ$
- D $m\angle L + m\angle P + m\angle T = 180^\circ$

- 14 The graph of $f(x) = x^2 + x - 6$ is shown below.



Which of the following is a zero of this function?

- F -6
- G 3
- H -2
- J 2

- 15 Sabrina has a bag of 5 marbles that are identical in size. The bag contains 4 blue marbles and 1 red marble. If Sabrina randomly draws a marble from the bag, replaces it, and then draws another marble, what is the probability that she will first draw a blue marble and then a red marble?

- A $\frac{4}{25}$
- B $\frac{1}{5}$
- C $\frac{4}{5}$
- D $\frac{1}{4}$

- 16 The length of a rectangular garden is 20 feet longer than the width, w . Which equation best describes the garden's perimeter, P ?

- F $P = (w + 20) + w$
- G $P = (w + 20)w$
- H $P = (w + 20)2w$
- J $P = 2(w + 20) + 2w$

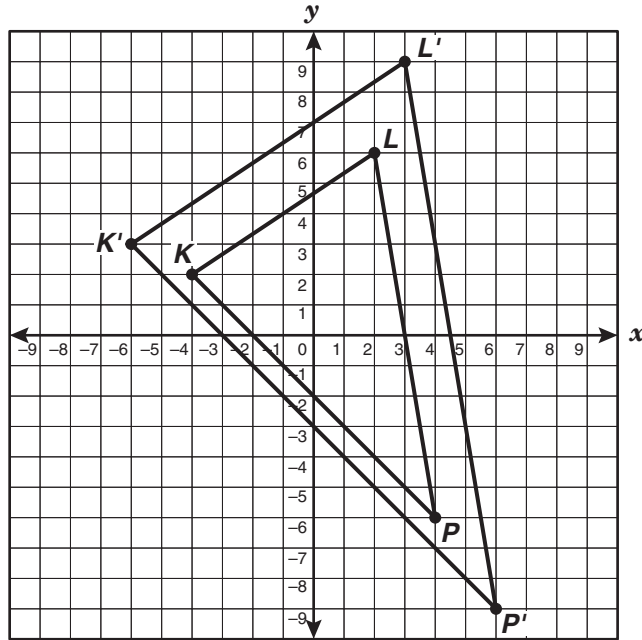
- 17 At a pet store the total cost of 8 pounds of Brand X dog food and 1 pound of Brand Y dog food is \$8.40, including tax. The total cost of 16 pounds of Brand X dog food and 8 pounds of Brand Y dog food is \$24.00, including tax. What is the price per pound of Brand Y dog food?
- A \$0.90
B \$1.20
C \$2.60
D \$4.08

- 18 At an automobile dealership, 2 out of every 12 cars sold are red. Which is the best prediction of the number of red cars sold when the automobile dealer sells 150 cars?
- F 75
G 25
H 15
J 12

- 19 Mr. García built a rectangular deck in his backyard. The deck was 16 feet long and 12 feet wide. What was the length, in feet, of the diagonal of the rectangular deck?

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

- 20 $\triangle KLP$ has vertices $K(-4, 2)$, $L(2, 6)$, and $P(4, -6)$. It is dilated to form $\triangle K'L'P'$ with the origin as the center of dilation.



If the coordinates of K' are $(-6, 3)$, what scale factor was used to form $\triangle K'L'P'$?

- F $\frac{2}{3}$
- G $\frac{1}{4}$
- H $\frac{3}{2}$
- J 4

21 If the area of a circle is 95 square inches, which of the following is closest to the circumference of this circle?

- A** 17 in.
- B** 35 in.
- C** 19 in.
- D** 190 in.

22 The formula below can be used to convert temperatures in degrees Fahrenheit, F , to temperatures in degrees Celsius, C .

$$C = \frac{5}{9}(F - 32)$$

On a certain day temperatures at the North Pole were between -20°F and -15°F . Which of these is a reasonable temperature in degrees Celsius for that day at the North Pole?

- F** -30°C
- G** -22°C
- H** -27°C
- J** -11°C

- 23** To buy a membership at a recreation center, people must pay a one-time registration fee plus a regular monthly fee. The table below shows the total amount a person pays, including the registration fee, for different numbers of months of membership.

Membership Fees

Number of Months	Total Amount Paid
4	\$150
6	\$200
12	\$350
24	\$650

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

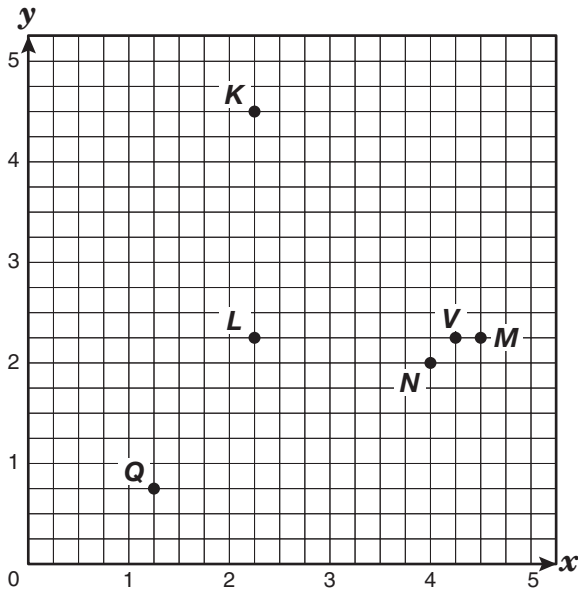
- A** The monthly fee is \$50.
- B** The monthly fee is \$37.50.
- C** The registration fee is \$75.
- D** The registration fee is \$50.

- 24** A math club is planning to sell candles to pay for the cost of attending the regional math competition. The club needs to raise a total of \$250. The candles come in boxes of 24. What additional information is needed to determine the number of candles the club needs to sell?

- F** The colors of the candles
- G** The profit the club will make on each candle sold
- H** The number of boxes ordered
- J** The number of students in the math club

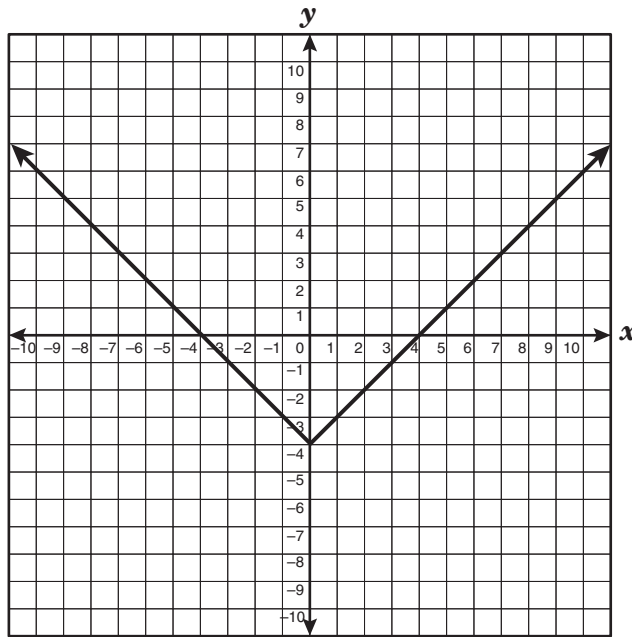
- 25 Which statement best describes how the volume of a cube changes when the edge length is doubled to form a new cube?
- A The volume of the new cube is $\frac{1}{2}$ the volume of the original cube.
 - B The volume of the new cube is $\frac{1}{4}$ the volume of the original cube.
 - C The volume of the new cube is 8 times the volume of the original cube.
 - D The volume of the new cube is 4 times the volume of the original cube.

- 26 Which point on the grid below best represents the coordinate point $(\frac{9}{2}, \frac{9}{4})$?



- F Point Q
- G Point M
- H Point V
- J Point K

27 Which of the following best represents the range of the function shown below?

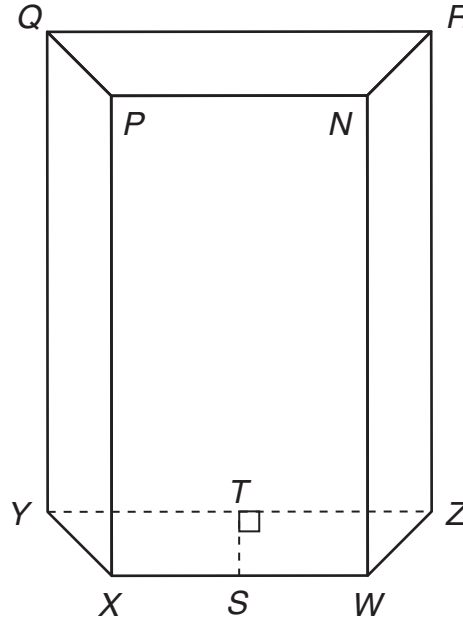


- A The range is all real numbers.
- B The range is all real numbers greater than or equal to 4.
- C The range is all real numbers greater than or equal to zero.
- D The range is all real numbers greater than or equal to -4 .

28 A spherical ball has a diameter of 10 centimeters. Which is closest to the volume of the ball?

- F 524 cm^3
- G 393 cm^3
- H 4189 cm^3
- J 105 cm^3

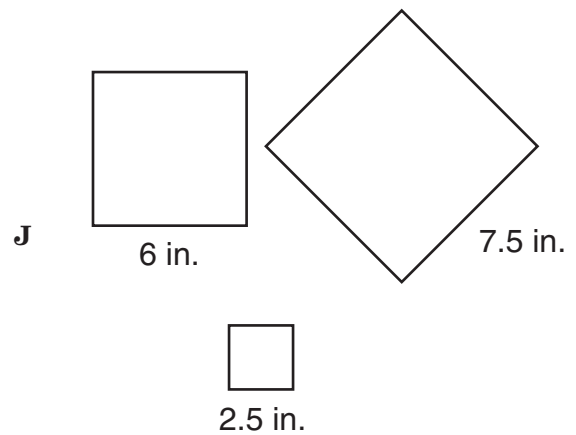
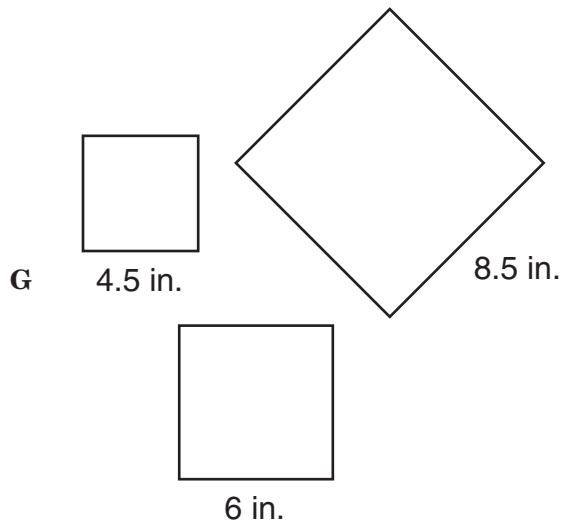
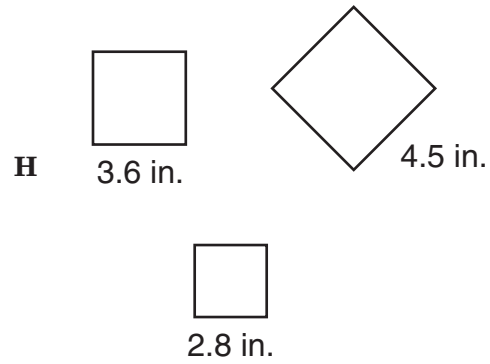
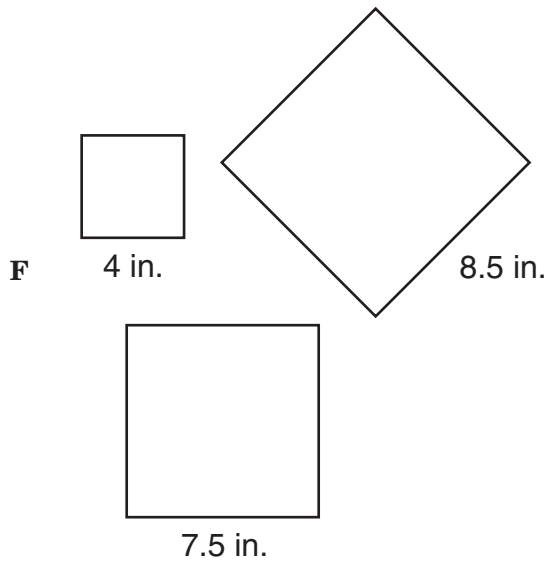
- 29 In the trapezoidal prism shown below, $NP = 8$ centimeters, and $QR = 12$ centimeters. The height of the prism is 15 centimeters.



Which additional information can be used to determine the volume of the prism?

- A The area of rectangle $PXWN$
 - B The area of rectangle $QYZR$
 - C The length of \overline{NR}
 - D The length of \overline{TS}
-
- 30 Lorraine wants to paint the 4 rectangular walls of a room, including the door. The room is 18 feet long and 12 feet wide, and the walls are 10 feet high. What is the total area that will be painted?
- F 300 ft^2
 - G 600 ft^2
 - H 816 ft^2
 - J 864 ft^2
- 31 Which of the following represents the parent function of $y = x^2 - 2x - 15$?
- A $y = x$
 - B $y = x^2 - 15$
 - C $y = x^2$
 - D $y = -2x$

32 Which group of squares can be joined at their vertices to form a right triangle?



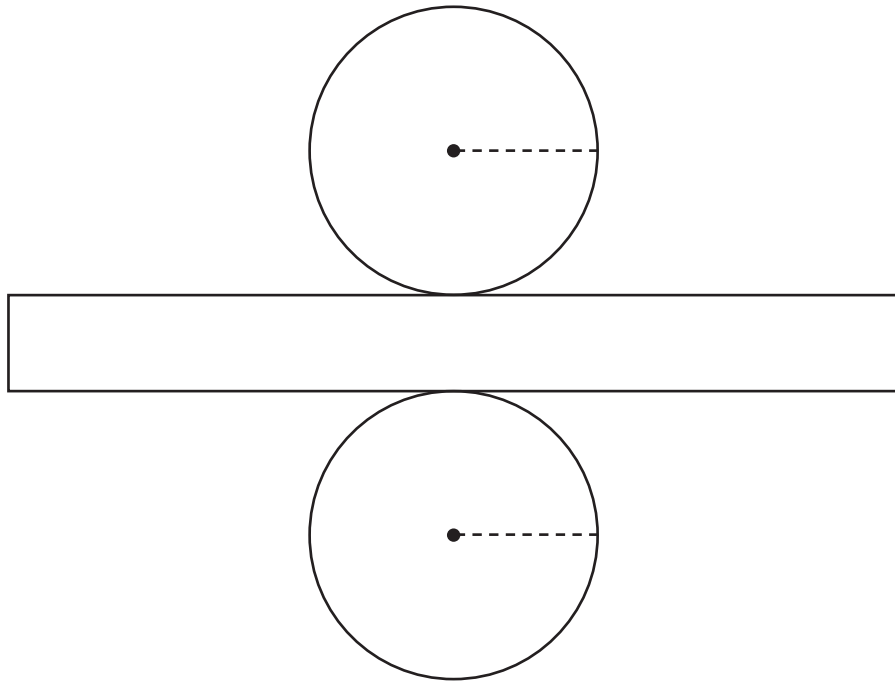
33 Ms. Lee is planning to travel a total of 1250 miles during a trip. Her car gets 30 miles per gallon on the highway and 22 miles per gallon in the city. If Ms. Lee plans to travel 1000 miles of her trip on the highway, which of these is closest to the total number of gallons of gasoline she will need for the entire trip?

- A 38 gallons
- B 33 gallons
- C 45 gallons
- D 48 gallons

34 What is the slope of the graph of the equation $3x + 2y = 6$?

- F $\frac{2}{3}$
- G $-\frac{3}{2}$
- H $-\frac{2}{3}$
- J $\frac{3}{2}$

- 35 The net of a cylinder is shown below. Use the ruler on the Mathematics Chart to measure the dimensions of the net to the nearest $\frac{1}{4}$ inch.



Which of these is closest to the total surface area of the cylinder?

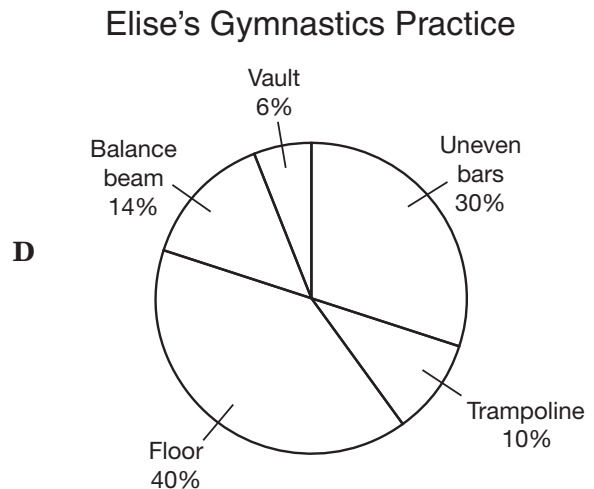
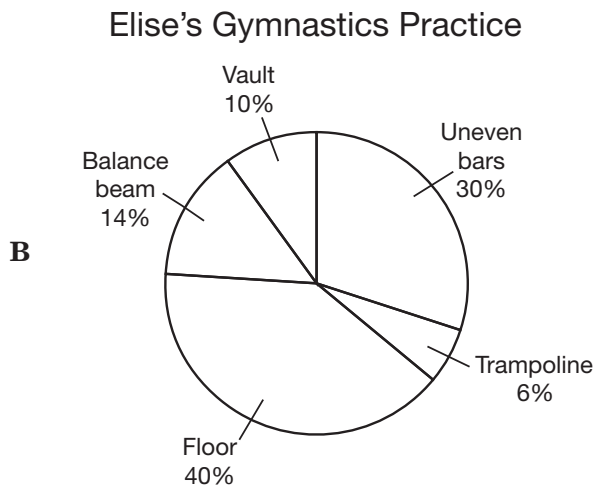
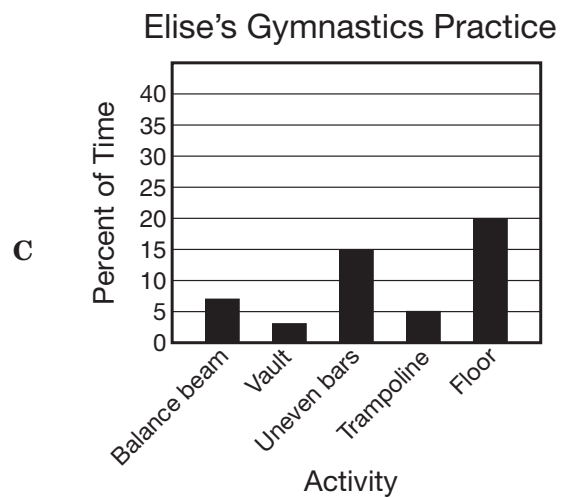
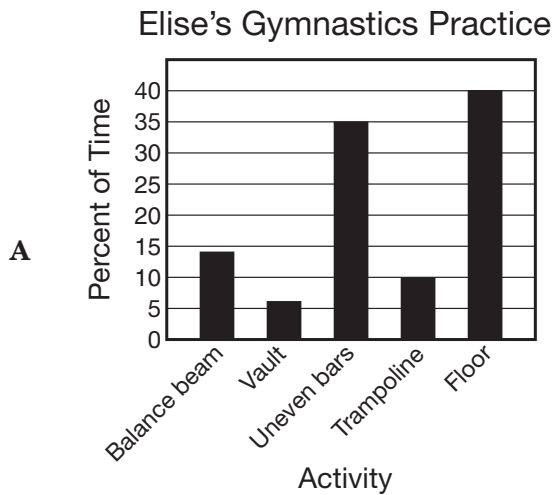
- A 4 in.²
 - B 2.5 in.²
 - C 6 in.²
 - D 1.8 in.²
-
- 36 If $c = -5$, how does the graph of $y = x^2 + 2c$ compare to the graph of $y = x^2 + c$?
- F The graph of $y = x^2 + 2c$ is below the graph of $y = x^2 + c$.
 - G The graph of $y = x^2 + 2c$ is above the graph of $y = x^2 + c$.
 - H The graph of $y = x^2 + 2c$ is narrower than the graph of $y = x^2 + c$.
 - J The graph of $y = x^2 + 2c$ is wider than the graph of $y = x^2 + c$.

- 37 Elise practiced gymnastics for 50 minutes. The time she spent on each activity is recorded in the table below.

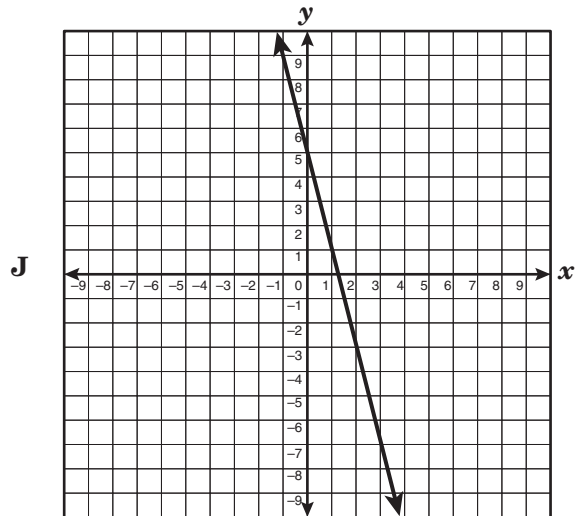
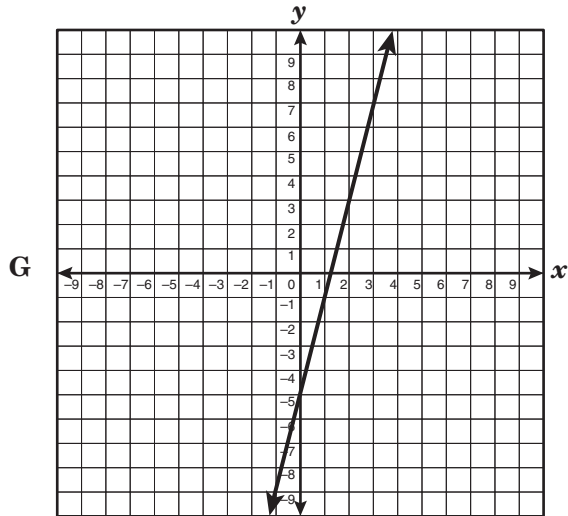
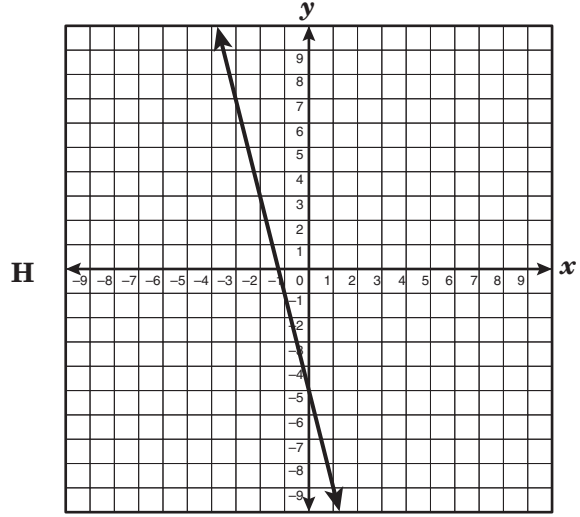
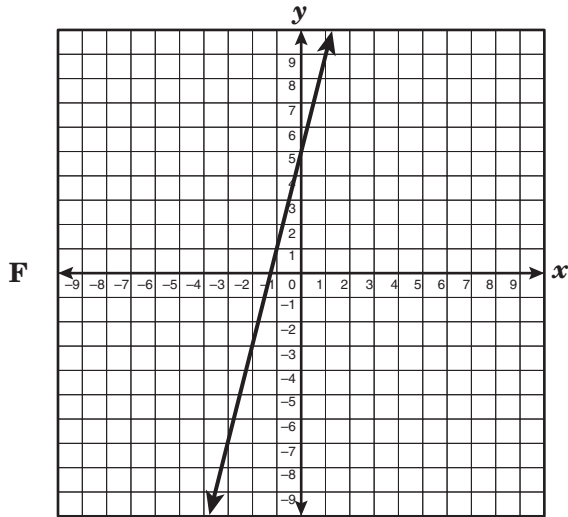
Elise's Gymnastics Practice

Activity	Time Spent (minutes)
Balance beam	7
Vault	3
Uneven bars	15
Trampoline	5
Floor	20

Which of the following graphs best represents the percent of time Elise spent on each activity during her gymnastics practice?



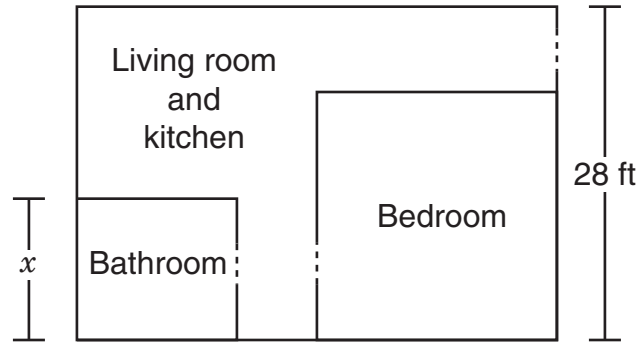
38 Which of the following best represents the graph of the equation $4x - y = -5$?



39 Jasmine bought an alarm clock that was on sale for 25% off the regular price of \$24.99. She paid an 8% sales tax on the sale price. Which of the following is closest to the amount Jasmine paid for the alarm clock, including sales tax?

- A \$18.74
- B \$22.99
- C \$17.24
- D \$20.24

- 40 The diagram below shows the floor plan of an apartment with a rectangular floor. The ratio of the width of the bathroom floor to the width of the entire apartment floor is 3:7.



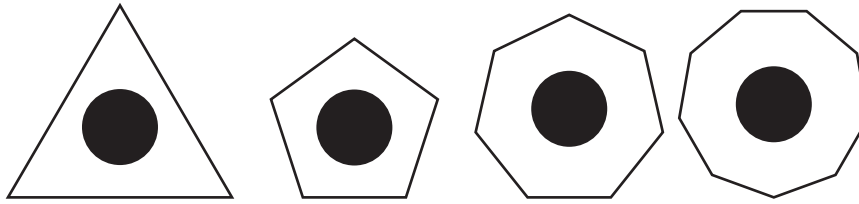
What is x , the width of the bathroom in inches?

- F 112 in.
- G 40 in.
- H 144 in.
- J 48 in.

- 41 The area, A , of a parallelogram is $64x^9y^6$ square feet. The height, h , of the parallelogram is $16x^3y^2$ feet. The area of a parallelogram can be found by using the formula $A = bh$. Which of the following best represents the length of this parallelogram's base, b ?

- A $4x^6y^4$ ft
- B $80x^{12}y^8$ ft
- C $4x^3y^3$ ft
- D $48x^6y^4$ ft

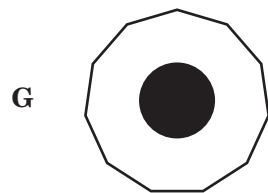
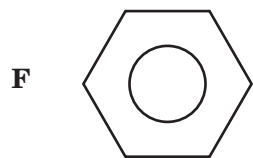
42 The following figures are examples of *keys*.



The following figures are not examples of *keys*.



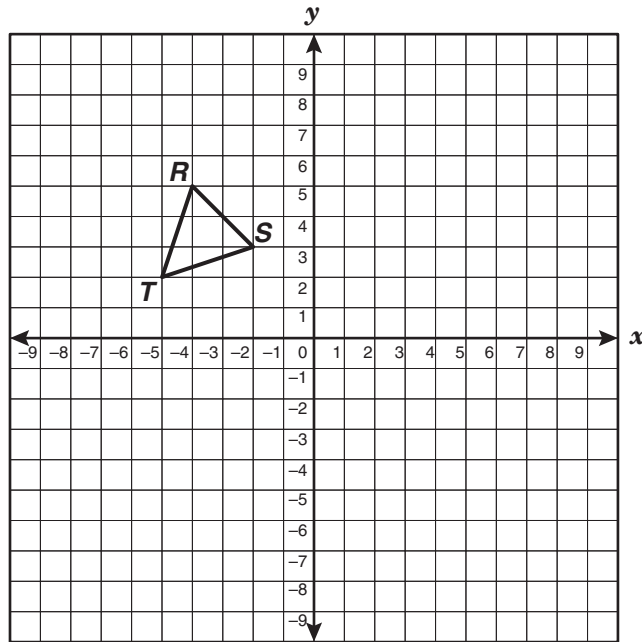
According to this information, which of the following figures best represents a *key*?



43 For what value of x is $(x, -3)$ a solution for $4x - 3y = 21$?

- A 11
- B -3
- C -11
- D 3

- 44 $\triangle RST$ has the vertices $R(-4, 5)$, $S(-2, 3)$, and $T(-5, 2)$.



If $\triangle RST$ is reflected across the x -axis and then translated 2 units down to become $\triangle R'S'T'$, what will be the coordinates of S' ?

- F** $(2, 1)$
- G** $(-2, -5)$
- H** $(-5, -2)$
- J** $(-2, -1)$

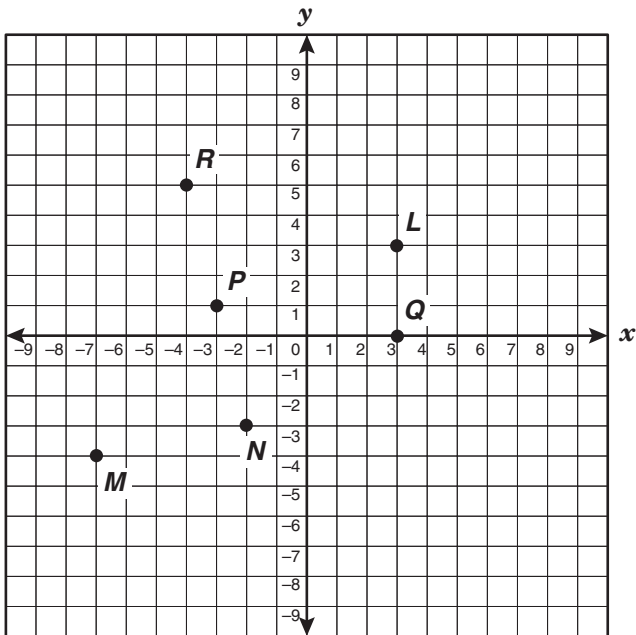
45 Mandy bought a bag of peanuts to share with her friends.

- Trisha received $\frac{1}{2}$ of the peanuts in the bag.
- Vince received $\frac{1}{4}$ of the peanuts Trisha received.
- Ray received $\frac{1}{3}$ of the peanuts Vince received.

If Ray received 4 peanuts, how many peanuts were in the bag Mandy bought?

- A 13
- B 32
- C 96
- D Not here

46 Which point on the grid satisfies the conditions $x \geq -3$ and $y \leq -1$?

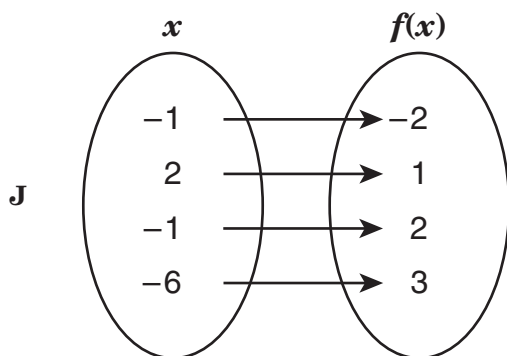
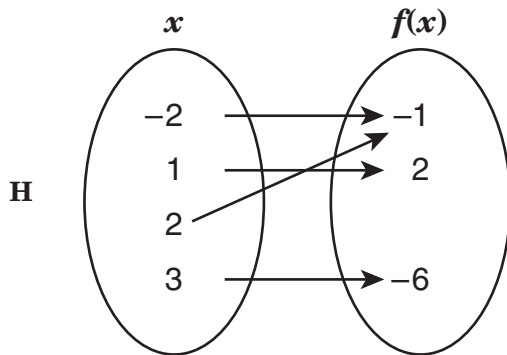
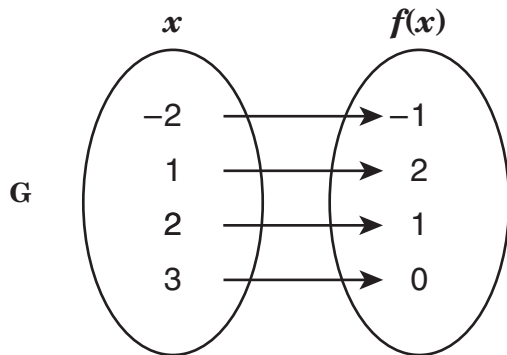
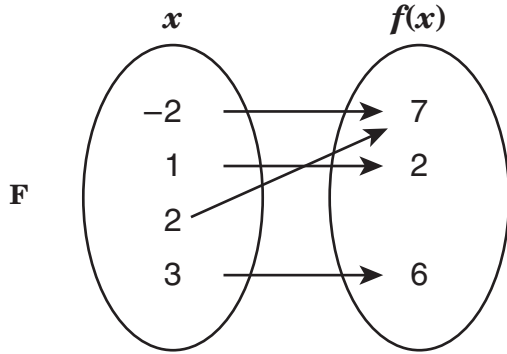


- F Point *N*
- G Point *P*
- H Point *M*
- J Point *L*

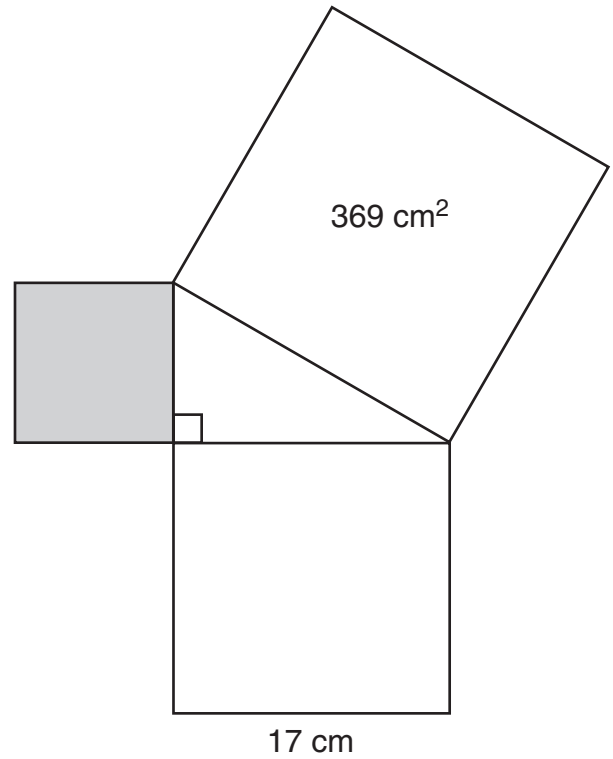
47 Wanda wants to buy some picture frames for her home. Small picture frames cost \$8 each, and large picture frames cost \$12 each. If Wanda wants to spend less than \$100 on picture frames, which of the following inequalities can be used to determine the number of small frames, s , and the number of large frames, l , she can buy?

- A $12s + 8l < 100$
- B $8s + 12l < 100$
- C $12s + 8l > 100$
- D $8s + 12l > 100$

- 48 Which of the following mappings best represents the function $f(x) = -x^2 + 3$?



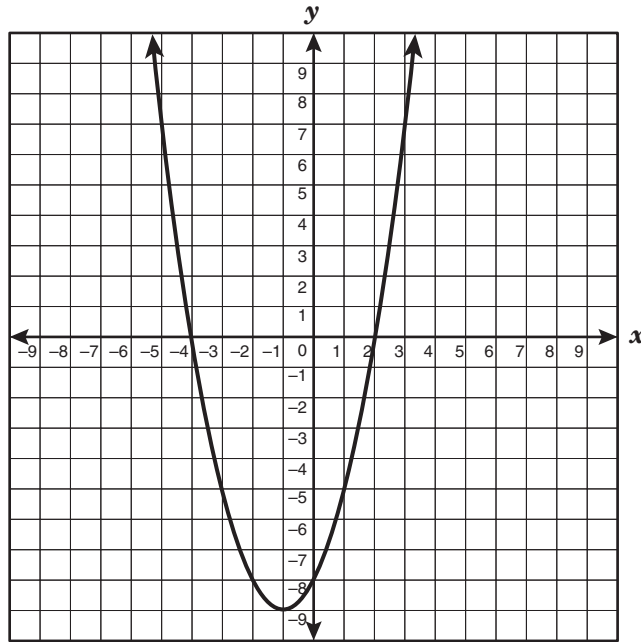
- 49 The three squares shown below are joined at their vertices to form a right triangle.



What is the area of the shaded square?

- A 80 cm^2
- B 352 cm^2
- C 2 cm^2
- D 658 cm^2

- 50 The graph of $y = x^2 + 2x - 8$ is shown below.



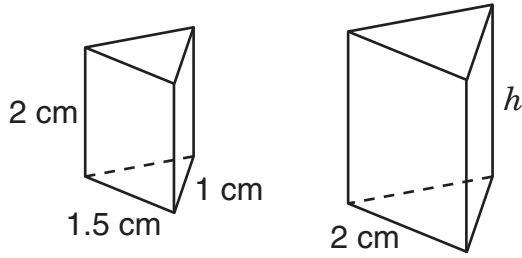
Which coordinate pair best represents the vertex of this graph?

- F $(-4, 0)$
- G $(2, 0)$
- H $(0, -8)$
- J $(-1, -9)$

-
- 51 Two complementary angles have measures of s and t . If t is 9 less than twice s , which system of linear equations can be used to determine the measure of each angle?

- A $t + s = -9$
 $t = 2s + 90$
- B $t - s = -9$
 $t = 2s - 90$
- C $t + s = 90$
 $t = 2s - 9$
- D $t + s = 90$
 $t = -2s - 9$

- 52 The two triangular prisms shown below are similar.



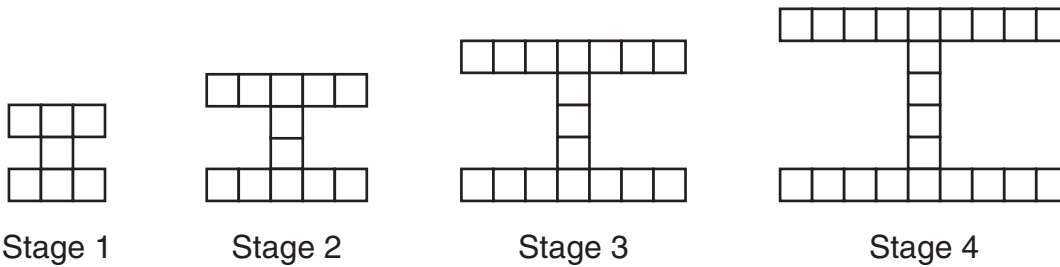
Which of these is closest to h , the height of the larger prism?

- F 1.3 cm
- G 2.7 cm
- H 7 cm
- J 1 cm

- 53 A company rented a copy machine for \$225 per month for 3 months. The company also paid \$0.012 for each copy made. If the total cost of using the copy machine during this 3-month period was \$1,107, how many copies did the company make?

- A 148,500
- B 92,250
- C 73,500
- D 36,000

54 The square tiles below are arranged to show a pattern.



Which expression can be used to determine the number of square tiles in Stage n ?

- F $4n + 3$
- G $5n + 2$
- H $n^2 + 6$
- J $n^3 + 6$

55 The table below shows the relationship between x and $f(x)$.

x	$f(x)$
-2	4
-1	2
0	0
1	-2
2	-4

Which function represents this relationship?

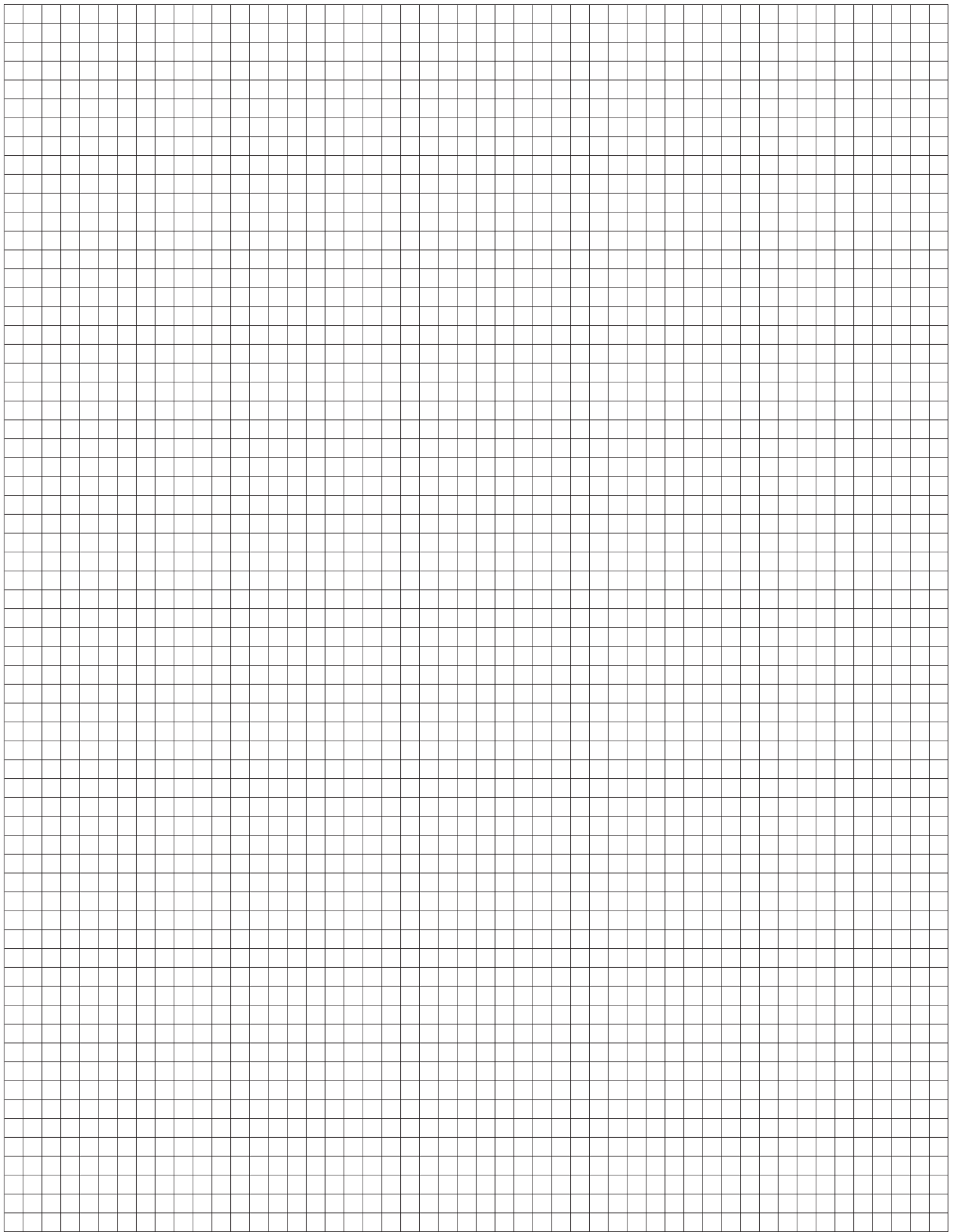
- A $f(x) = 2x$
- B $f(x) = -2x$
- C $f(x) = -x - 2$
- D $f(x) = x + 6$

56 If y is directly proportional to x and $y = 8$ when $x = 10$, what is the value of y when $x = 5$?

- F 4
- G 16
- H 40
- J 80

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







Texas Assessment of Knowledge and Skills - Answer Key

Grade: 10
Subject: Mathematics
Administration: April 2009

The letter A indicates that the student expectation listed is from the Algebra I TEKS.

Item Number	Correct Answer	Objective Measured	Student Expectations
01	D	07	8.7 (A)
02	H	01	A.1 (C)
03	A	07	8.7 (B)
04	H	09	8.13 (B)
05	C	05	A.9 (B)
06	G	02	A.4 (B)
07	D	06	8.6 (A)
08	H	03	A.6 (D)
09	D	01	A.1 (A)
10	H	08	8.10 (A)
11	A	10	8.14 (C)
12	J	03	A.5 (A)
13	B	10	8.16 (B)
14	J	05	A.10 (B)
15	A	09	8.11 (A)
16	J	02	A.3 (A)
17	B	04	A.8 (B)
18	G	09	8.11 (B)
19	20	08	8.9 (A)
20	H	06	8.6 (A)
21	B	10	8.14 (B)
22	H	04	A.7 (C)
23	D	01	A.1 (E)
24	G	10	8.14 (A)
25	C	08	8.10 (B)
26	G	06	8.7 (D)
27	D	02	A.2 (B)
28	F	08	8.8 (C)
29	D	10	8.15 (A)
30	G	08	8.8 (C)
31	C	02	A.2 (A)
32	F	07	8.7 (C)
33	C	10	8.14 (A)
34	G	03	A.6 (A)
35	C	08	8.8 (A)
36	F	05	A.9 (C)
37	D	09	8.12 (C)
38	F	03	A.5 (C)
39	D	09	8.3 (B)
40	H	07	8.7 (B)
41	A	05	A.11 (A)
42	G	10	8.16 (A)
43	D	04	A.7 (B)
44	G	06	8.6 (B)
45	C	10	8.14 (C)
46	F	06	8.7 (D)
47	B	04	A.7 (A)
48	H	01	A.1 (D)
49	A	07	8.7 (C)
50	J	05	A.9 (D)
51	C	04	A.8 (A)
52	G	08	8.9 (B)
53	D	10	8.14 (B)
54	G	02	A.3 (B)
55	B	01	A.1 (B)
56	F	03	A.6 (G)

TAKS Grade 10 Mathematics

For a more complete description of the objectives measured, please refer to the Revised TAKS Information Booklet for Grade 10 Mathematics at <http://www.tea.state.tx.us/student.assessment/taks/booklets/index.html>.

Objective 1: The student will describe functional relationships in a variety of ways.

- (A.1) **Foundations for functions.** The student understands that a function represents a dependence of one quantity on another and can be described in a variety of ways. The student is expected to
- (A) describe independent and dependent quantities in functional relationships;
 - (B) [gather and record data and] use data sets to determine functional relationships between quantities;
 - (C) describe functional relationships for given problem situations and write equations or inequalities to answer questions arising from the situations;
 - (D) represent relationships among quantities using [concrete] models, tables, graphs, diagrams, verbal descriptions, equations, and inequalities; and
 - (E) interpret and make decisions, predictions, and critical judgments from functional relationships.

Objective 2: The student will demonstrate an understanding of the properties and attributes of functions.

- (A.2) **Foundations for functions.** The student uses the properties and attributes of functions. The student is expected to
- (A) identify [and sketch] the general forms of linear ($y = x$) and quadratic ($y = x^2$) parent functions;
 - (B) identify mathematical domains and ranges and determine reasonable domain and range values for given situations, both continuous and discrete;
 - (C) interpret situations in terms of given graphs [or create situations that fit given graphs]; and
 - (D) [collect and] organize data, [make and] interpret scatterplots (including recognizing positive, negative, or no correlation for data approximating linear situations), and model, predict, and make decisions and critical judgments in problem situations.
- (A.3) **Foundations for functions.** The student understands how algebra can be used to express generalizations and recognizes and uses the power of symbols to represent situations. The student is expected to
- (A) use symbols to represent unknowns and variables; and
 - (B) look for patterns and represent generalizations algebraically.
- (A.4) **Foundations for functions.** The student understands the importance of the skills required to manipulate symbols in order to solve problems and uses the necessary algebraic skills required to simplify algebraic expressions and solve equations and inequalities in problem situations. The student is expected to

TAKS Grade 10 Mathematics (continued)

- (A) find specific function values, simplify polynomial expressions, transform and solve equations, and factor as necessary in problem situations;
- (B) use the commutative, associative, and distributive properties to simplify algebraic expressions; and
- (C) connect equation notation with function notation, such as $y = x + 1$ and $f(x) = x + 1$.

Objective 3: The student will demonstrate an understanding of linear functions.

(A.5) **Linear functions.** The student understands that linear functions can be represented in different ways and translates among their various representations. The student is expected to

- (A) determine whether or not given situations can be represented by linear functions; and
- (C) use, translate, and make connections among algebraic, tabular, graphical, or verbal descriptions of linear functions.

(A.6) **Linear functions.** The student understands the meaning of the slope and intercepts of the graphs of linear functions and zeros of linear functions and interprets and describes the effects of changes in parameters of linear functions in real-world and mathematical situations. The student is expected to

- (A) develop the concept of slope as rate of change and determine slopes from graphs, tables, and algebraic representations;
- (B) interpret the meaning of slope and intercepts in situations using data, symbolic representations, or graphs;
- (C) investigate, describe, and predict the effects of changes in m and b on the graph of $y = mx + b$;
- (D) graph and write equations of lines given characteristics such as two points, a point and a slope, or a slope and y -intercept;
- (E) determine the intercepts of the graphs of linear functions and zeros of linear functions from graphs, tables, and algebraic representations;
- (F) interpret and predict the effects of changing slope and y -intercept in applied situations; and
- (G) relate direct variation to linear functions and solve problems involving proportional change.

Objective 4: The student will formulate and use linear equations and inequalities.

(A.7) **Linear functions.** The student formulates equations and inequalities based on linear functions, uses a variety of methods to solve them, and analyzes the solutions in terms of the situation. The student is expected to

- (A) analyze situations involving linear functions and formulate linear equations or inequalities to solve problems;
- (B) investigate methods for solving linear equations and inequalities using [concrete] models, graphs, and the properties of equality, select a method, and solve the equations and inequalities; and

TAKS Grade 10 Mathematics (continued)

- (C) interpret and determine the reasonableness of solutions to linear equations and inequalities.
- (A.8) **Linear functions.** The student formulates systems of linear equations from problem situations, uses a variety of methods to solve them, and analyzes the solutions in terms of the situation. The student is expected to
- (A) analyze situations and formulate systems of linear equations in two unknowns to solve problems;
 - (B) solve systems of linear equations using [concrete] models, graphs, tables, and algebraic methods; and
 - (C) interpret and determine the reasonableness of solutions to systems of linear equations.

Objective 5: The student will demonstrate an understanding of quadratic and other nonlinear functions.

- (A.9) **Quadratic and other nonlinear functions.** The student understands that the graphs of quadratic functions are affected by the parameters of the function and can interpret and describe the effects of changes in the parameters of quadratic functions. The student is expected to
- (B) investigate, describe, and predict the effects of changes in a on the graph of $y = ax^2 + c$;
 - (C) investigate, describe, and predict the effects of changes in c on the graph of $y = ax^2 + c$; and
 - (D) analyze graphs of quadratic functions and draw conclusions.
- (A.10) **Quadratic and other nonlinear functions.** The student understands there is more than one way to solve a quadratic equation and solves them using appropriate methods. The student is expected to
- (A) solve quadratic equations using [concrete] models, tables, graphs, and algebraic methods; and
 - (B) make connections among the solutions (roots) of quadratic equations, the zeros of their related functions, and the horizontal intercepts (x -intercepts) of the graph of the function.
- (A.11) **Quadratic and other nonlinear functions.** The student understands there are situations modeled by functions that are neither linear nor quadratic and models the situations. The student is expected to
- (A) use [patterns to generate] the laws of exponents and apply them in problem-solving situations.

Objective 6: The student will demonstrate an understanding of geometric relationships and spatial reasoning.

- (8.6) **Geometry and spatial reasoning.** The student uses transformational geometry to develop spatial sense. The student is expected to
- (A) generate similar figures using dilations including enlargements and reductions; and
 - (B) graph dilations, reflections, and translations on a coordinate plane.

TAKS Grade 10 Mathematics (continued)

(8.7) **Geometry and spatial reasoning.** The student uses geometry to model and describe the physical world. The student is expected to

- (D) locate and name points on a coordinate plane using ordered pairs of rational numbers.

Objective 7: The student will demonstrate an understanding of two- and three-dimensional representations of geometric relationships and shapes.

(8.7) **Geometry and spatial reasoning.** The student uses geometry to model and describe the physical world. The student is expected to

- (A) draw three-dimensional figures from different perspectives;
- (B) use geometric concepts and properties to solve problems in fields such as art and architecture; and
- (C) use pictures or models to demonstrate the Pythagorean Theorem.

Objective 8: The student will demonstrate an understanding of the concepts and uses of measurement and similarity.

(8.8) **Measurement.** The student uses procedures to determine measures of three-dimensional figures. The student is expected to

- (A) find lateral and total surface area of prisms, pyramids, and cylinders using [concrete] models and nets (two-dimensional models);
- (B) connect models of prisms, cylinders, pyramids, spheres, and cones to formulas for volume of these objects; and
- (C) estimate measurements and use formulas to solve application problems involving lateral and total surface area and volume.

(8.9) **Measurement.** The student uses indirect measurement to solve problems. The student is expected to

- (A) use the Pythagorean Theorem to solve real-life problems; and
- (B) use proportional relationships in similar two-dimensional figures or similar three-dimensional figures to find missing measurements.

(8.10) **Measurement.** The student describes how changes in dimensions affect linear, area, and volume measures. The student is expected to

- (A) describe the resulting effects on perimeter and area when dimensions of a shape are changed proportionally; and
- (B) describe the resulting effect on volume when dimensions of a solid are changed proportionally.

TAKS Grade 10 Mathematics (continued)

Objective 9: The student will demonstrate an understanding of percents, proportional relationships, probability, and statistics in application problems.

- (8.3) **Patterns, relationships, and algebraic thinking.** The student identifies proportional or non-proportional linear relationships in problem situations and solves problems. The student is expected to
- (B) estimate and find solutions to application problems involving percents and other proportional relationships, such as similarity and rates.
- (8.11) **Probability and statistics.** The student applies concepts of theoretical and experimental probability to make predictions. The student is expected to
- (A) find the probabilities of dependent and independent events; and
 - (B) use theoretical probabilities and experimental results to make predictions and decisions.
- (8.12) **Probability and statistics.** The student uses statistical procedures to describe data. The student is expected to
- (A) select the appropriate measure of central tendency or range to describe a set of data and justify the choice for a particular situation; and
 - (C) select and use an appropriate representation for presenting and displaying relationships among collected data, including line plots, line graphs, [stem and leaf plots,] circle graphs, bar graphs, box and whisker plots, histograms, and Venn diagrams, with and without the use of technology.
- (8.13) **Probability and statistics.** The student evaluates predictions and conclusions based on statistical data. The student is expected to
- (B) recognize misuses of graphical or numerical information and evaluate predictions and conclusions based on data analysis.

Objective 10: The student will demonstrate an understanding of the mathematical processes and tools used in problem solving.

- (8.14) **Underlying processes and mathematical tools.** The student applies Grade 8 mathematics to solve problems connected to everyday experiences, investigations in other disciplines, and activities in and outside of school. The student is expected to
- (A) identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics;
 - (B) use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness; and
 - (C) select or develop an appropriate problem-solving strategy from a variety of different types, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem.
- (8.15) **Underlying processes and mathematical tools.** The student communicates about Grade 8 mathematics through informal and mathematical language, representations, and models. The student is expected to

TAKS Grade 10 Mathematics (continued)

- (A) communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models.
- (8.16) **Underlying processes and mathematical tools.** The student uses logical reasoning to make conjectures and verify conclusions. The student is expected to
- (A) make conjectures from patterns or sets of examples and nonexamples; and
 - (B) validate his/her conclusions using mathematical properties and relationships.



Texas Assessment of Knowledge and Skills - Answer Key

Grade: 10
Subject: Science
Administration: April 2009

The letter **B** indicates that the student expectation listed is from the Biology I TEKS.

The letter **I** indicates that the student expectation listed is from the Integrated Physics and Chemistry TEKS.

Item Number	Correct Answer	Objective Measured	Student Expectations
01	B	01	B.1 (A)
02	H	05	I.6 (F)
03	D	01	B.2 (C)
04	G	02	B.6 (C)
05	B	01	B.2 (C)
06	F	03	B.4 (D)
07	D	05	I.4 (B)
08	H	01	B.2 (A)
09	A	02	B.6 (D)
10	G	04	I.9 (D)
11	A	01	B.2 (A)
12	J	02	B.4 (B)
13	C	03	B.13 (A)
14	F	04	I.7 (A)
15	A	02	B.6 (A)
16	H	04	I.7 (E)
17	A	01	I.3 (B)
18	J	02	B.10 (A)
19	C	03	B.7 (B)
20	J	04	I.9 (D)
21	A	03	B.4 (C)
22	30.	05	I.4 (A)
23	C	04	I.8 (C)
24	G	01	B.2 (D)
25	D	03	B.12 (E)
26	G	03	B.13 (A)
27	D	05	I.5 (A)
28	H	02	B.6 (D)
29	B	03	B.12 (E)
30	F	01	B.2 (B)
31	B	02	B.4 (B)
32	H	04	I.8 (C)
33	D	02	B.6 (C)
34	G	01	I.3 (A)
35	C	02	B.10 (A)
36	F	04	I.8 (A)
37	D	01	I.3 (A)
38	F	03	B.7 (B)
39	C	05	I.6 (B)
40	H	01	B.2 (D)
41	D	05	I.4 (B)
42	G	04	I.9 (A)
43	D	01	I.3 (B)
44	H	03	B.12 (B)
45	A	01	B.2 (A)
46	G	02	B.8 (C)
47	C	01	B.1 (A)
48	F	05	I.6 (A)
49	B	03	B.7 (B)
50	G	05	I.4 (A)
51	C	01	B.2 (B)
52	J	03	B.12 (E)
53	B	01	I.3 (B)
54	H	01	I.3 (A)
55	C	02	B.6 (D)

TAKS Grade 10 Science

For a more complete description of the objectives measured, please refer to the Revised TAKS Information Booklet for Grade 10 Science at <http://www.tea.state.tx.us/student.assessment/taks/booklets/index.html>.

Objective 1: The student will demonstrate an understanding of the nature of science.

Biology (1) and Integrated Physics and Chemistry (1) Scientific Processes. The student, for at least 40% of instructional time, conducts field and laboratory investigations using safe, environmentally appropriate, and ethical practices. The student is expected to

- (A) demonstrate safe practices during field and laboratory investigations.

Biology (2) and Integrated Physics and Chemistry (2) Scientific Processes. The student uses scientific methods during field and laboratory investigations. The student is expected to

- (A) plan and implement investigative procedures including asking questions, formulating testable hypotheses, and selecting equipment and technology;
- (B) collect data and make measurements with precision;
- (C) organize, analyze, evaluate, make inferences, and predict trends from data; and
- (D) communicate valid conclusions.

Integrated Physics and Chemistry (3) Scientific Processes. The student uses critical thinking and scientific problem solving to make informed decisions. The student is expected to

- (A) analyze, review, [and critique] scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information; and
- (B) draw inferences based on data related to [promotional materials for] products and services.

Objective 2: The student will demonstrate an understanding of the organization of living systems.

Biology (4) Science Concepts. The student knows that cells are the basic structures of all living things and have specialized parts that perform specific functions, and that viruses are different from cells and have different properties and functions. The student is expected to

- (B) investigate and identify cellular processes including homeostasis, permeability, energy production, transportation of molecules, disposal of wastes, function of cellular parts, and synthesis of new molecules.

Biology (6) Science Concepts. The student knows the structures and functions of nucleic acids in the mechanisms of genetics. The student is expected to

- (A) describe components of deoxyribonucleic acid (DNA), and illustrate how information for specifying the traits of an organism is carried in the DNA;
- (C) identify and illustrate how changes in DNA cause mutations [and evaluate the significance of these changes]; and

TAKS Grade 10 Science (continued)

- (D) compare genetic variations observed in plants and animals.

Biology (8) Science Concepts. The student knows applications of taxonomy and can identify its limitations. The student is expected to

- (C) identify characteristics of kingdoms including monerans, protists, fungi, plants, and animals. **

**The TAKS will use the most current classification system.

Biology (10) Science Concepts. The student knows that, at all levels of nature, living systems are found within other living systems, each with its own boundary and limits. The student is expected to

- (A) interpret the functions of systems in organisms including circulatory, digestive, nervous, endocrine, reproductive, integumentary, skeletal, respiratory, muscular, excretory, and immune.

Objective 3: The student will demonstrate an understanding of the interdependence of organisms and the environment.

Biology (4) Science Concepts. The student knows that cells are the basic structures of all living things and have specialized parts that perform specific functions, and that viruses are different from cells and have different properties and functions. The student is expected to

- (C) compare the structures and functions of viruses to cells and describe the role of viruses in causing diseases and conditions such as acquired immune deficiency syndrome, common colds, smallpox, influenza, and warts; and
- (D) identify and describe the role of bacteria in maintaining health such as in digestion and in causing diseases such as in streptococcus infections and diphtheria.

Biology (7) Science Concepts. The student knows the theory of biological evolution. The student is expected to

- (B) illustrate the results of natural selection in speciation, diversity, phylogeny, adaptation, behavior, and extinction.

Biology (12) Science Concepts. The student knows that interdependence and interactions occur within an ecosystem. The student is expected to

- (B) interpret interactions among organisms exhibiting predation, parasitism, commensalism, and mutualism; and
- (E) investigate and explain the interactions in an ecosystem including food chains, food webs, and food pyramids.

Biology (13) Science Concepts. The student knows the significance of plants in the environment. The student is expected to

- (A) evaluate the significance of structural and physiological adaptations of plants to their environments.

TAKS Grade 10 Science (continued)

Objective 4: The student will demonstrate an understanding of the structures and properties of matter.

Integrated Physics and Chemistry (7) Science Concepts. The student knows relationships exist between properties of matter and its components. The student is expected to

- (A) investigate and identify properties of fluids including density, viscosity, and buoyancy; and
- (E) classify samples of matter from everyday life as being elements, compounds, or mixtures.

Integrated Physics and Chemistry (8) Science Concepts. The student knows that changes in matter affect everyday life. The student is expected to

- (A) distinguish between physical and chemical changes in matter such as oxidation, digestion, changes in states, and stages in the rock cycle; and
- (C) investigate and identify the law of conservation of mass.

Integrated Physics and Chemistry (9) Science Concepts. The student knows how solution chemistry is a part of everyday life. The student is expected to

- (A) relate the structure of water to its function [as the universal solvent]; and
- (D) demonstrate how various factors influence solubility including temperature, pressure, and nature of the solute and solvent.

Objective 5: The student will demonstrate an understanding of motion, forces, and energy.

Integrated Physics and Chemistry (4) Science Concepts. The student knows concepts of force and motion evident in everyday life. The student is expected to

- (A) calculate speed, momentum, acceleration, work, and power in systems such as in the human body, moving toys, and machines; and
- (B) investigate and describe [applications of] Newton's laws such as in vehicle restraints, sports activities, geological processes, and satellite orbits.

Integrated Physics and Chemistry (5) Science Concepts. The student knows the effects of waves on everyday life. The student is expected to

- (A) demonstrate wave types and their characteristics through a variety of activities such as modeling with ropes and coils, activating tuning forks, and interpreting data on seismic waves.

Integrated Physics and Chemistry (6) Science Concepts. The student knows the impact of energy transformations in everyday life. The student is expected to

- (A) describe the law of conservation of energy;
- (B) investigate and demonstrate the movement of heat through solids, liquids, and gases by convection, conduction, and radiation; and
- (F) investigate and compare series and parallel circuits.



Texas Assessment of Knowledge and Skills - Answer Key

Grade: 10
Subject: Social Studies
Administration: April 2009

The letter **W** indicates that the student expectation listed is from the World History TEKS.

The letter **G** indicates that the student expectation listed is from the World Geography TEKS.

Item Number	Correct Answer	Objective Measured	Student Expectations
01	A	05	W.26 (C)
02	H	04	8.16 (D)
03	C	05	W.25 (C)
04	F	04	8.22 (B)
05	A	02	G.1 (B)
06	H	03	G.5 (B)
07	B	04	8.20 (B)
08	H	05	W.26 (C)
09	D	04	8.3 (A)
10	F	02	G.1 (A)
11	B	03	G.5 (B)
12	J	02	W.12 (C)
13	B	04	8.16 (D)
14	J	04	8.18 (B)
15	C	01	8.4 (C)
16	H	02	W.23 (A)
17	B	02	G.1 (B)
18	G	05	8.30 (D)
19	C	02	G.6 (A)
20	G	05	8.30 (F)
21	C	01	8.16 (C)
22	F	03	G.18 (A)
23	A	03	G.18 (A)
24	G	05	W.25 (C)
25	A	05	G.8 (B)
26	G	01	8.1 (C)
27	C	05	8.30 (A)
28	G	04	8.16 (A)
29	C	02	W.12 (C)
30	H	02	W.23 (A)
31	B	02	G.6 (A)
32	F	04	8.17 (B)
33	B	01	8.16 (C)
34	J	02	G.6 (A)
35	D	01	8.4 (C)
36	G	05	G.21 (C)
37	B	03	G.18 (A)
38	F	02	G.1 (A)
39	B	04	8.3 (A)
40	J	04	8.16 (A)
41	C	03	G.5 (B)
42	J	05	G.21 (C)
43	A	01	8.1 (C)
44	G	04	8.17 (B)
45	C	01	8.4 (B)
46	G	05	G.8 (B)
47	C	04	8.22 (B)
48	G	03	G.5 (B)
49	C	05	G.8 (B)
50	G	02	8.10 (B)

TAKS Grade 10 Social Studies

For a more complete description of the objectives measured, please refer to the Revised TAKS Information Booklet for Grade 10 Social Studies at <http://www.tea.state.tx.us/student.assessment/taks/booklets/index.html>.

Objective 1: The student will demonstrate an understanding of issues and events in U.S. history.

- (8.1) **History.** The student understands traditional historical points of reference in U.S. history through 1877. The student is expected to
- (C) explain the significance of the following dates: [1607,] 1776, 1787, [1803,] and 1861-1865.
- (8.4) **History.** The student understands significant political and economic issues of the revolutionary era. The student is expected to
- (B) explain the roles played by significant individuals during the Revolution, including [Samuel Adams, Benjamin Franklin, King George III,] Thomas Jefferson, [the Marquis de Lafayette, Thomas Paine,] and George Washington; and
 - (C) explain the issues surrounding [important events of] the American Revolution, including declaring independence; [writing] the Articles of Confederation; [fighting the battles of Lexington, Concord, Saratoga, and Yorktown; and signing the Treaty of Paris].
- (8.16) **Government.** The student understands the American beliefs and principles reflected in the U.S. Constitution and other important historic documents. The student is expected to
- (C) identify colonial grievances listed in the Declaration of Independence and explain how those grievances were addressed in the U.S. Constitution and the Bill of Rights.

Objective 2: The student will demonstrate an understanding of geographic influences on historical issues and events.

- (8.10) **Geography.** The student uses geographic tools to collect, analyze, and interpret data. The student is expected to
- (B) [pose and] answer questions about geographic distributions and patterns shown on maps, graphs, charts, [models, and databases].
- (WG1) **History.** The student understands how geographic contexts (the geography of places in the past) and processes of spatial exchange (diffusion) influenced events in the past and helped to shape the present. The student is expected to
- (A) analyze the effects of physical and human geographic patterns and processes on events in the past and describe their effects on present conditions, including significant physical features and environmental conditions that influenced migration patterns in the past and shaped the distribution of culture groups today (correlates with WH12B); and
 - (B) trace the spatial diffusion of a phenomenon and describe its effects on regions of contact such as the spread of bubonic plague, the diffusion and exchange of foods between the New and Old Worlds, [or the diffusion of American slang] (correlates with WH11B).

TAKS Grade 10 Social Studies (continued)

(WG6) **Geography.** The student understands the types and patterns of settlement, the factors that affect where people settle, and processes of settlement development over time. The student is expected to

- (A) [locate settlements and] observe patterns in the size and distribution of cities using maps, graphics, and other information (correlates with WH26C).

(WH12) **Geography.** The student understands the impact of geographic factors on major historic events. The student is expected to

- (C) interpret historical [and contemporary] maps to identify and explain geographic factors [such as control of the Straits of Hormuz] that have influenced people and events in the past (correlates with WG21C).

(WH23) **Science, technology, and society.** The student understands how major scientific and mathematical discoveries and technological innovations have affected societies throughout history. The student is expected to

- (A) give examples of [major mathematical and scientific discoveries and] technological innovations that occurred at different periods in history and describe the changes produced by these discoveries and innovations (correlates with WG19A and WG20A).

Objective 3: The student will demonstrate an understanding of economic and social influences on historical issues and events.

(WG5) **Geography.** The student understands how political, economic, and social processes shape cultural patterns and characteristics in various places and regions. The student is expected to

- (B) analyze political, economic, social, and demographic data to determine the level of development and standard of living in nations (correlates with WH14C).

(WG10) **Economics.** The student understands the distribution and characteristics of economic systems throughout the world. The student is expected to

- (C) compare the ways people satisfy their basic needs through the production of goods and services such as subsistence agriculture versus market-oriented agriculture or cottage industries versus commercial industries (correlates with WH14C).

(WG18) **Culture.** The student understands the ways in which cultures change and maintain continuity. The student is expected to

- (A) describe the impact of general processes such as migration, war, trade, independent inventions, and diffusion of ideas and motivations on cultural change (correlates with WH1B).

Objective 4: The student will demonstrate an understanding of political influences on historical issues and events.

(8.3) **History.** The student understands the foundations of representative government in the United States. The student is expected to

- (A) explain the reasons for the growth of representative government and institutions during the colonial period.

TAKS Grade 10 Social Studies (continued)

- (8.16) **Government.** The student understands the American beliefs and principles reflected in the U.S. Constitution and other important historic documents. The student is expected to
- (A) identify the influence of ideas from historic documents including the Magna Carta, the English Bill of Rights, [the Mayflower Compact,] the Declaration of Independence, the Federalist Papers, [and selected anti-federalist writings] on the U.S. system of government; and
 - (D) analyze how the U.S. Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.
- (8.17) **Government.** The student understands the process of changing the U.S. Constitution and the impact of amendments on American society. The student is expected to
- (B) describe the impact of 19th-century amendments including the 13th, 14th, and 15th amendments on life in the United States.
- (8.18) **Government.** The student understands the dynamic nature of the powers of the national government and state governments in a federal system. The student is expected to
- (B) describe historical conflicts arising over the issue of states' rights, including the Nullification Crisis and the Civil War.
- (8.20) **Citizenship.** The student understands the rights and responsibilities of citizens of the United States. The student is expected to
- (A) define and give examples of unalienable rights; and
 - (B) summarize rights guaranteed in the Bill of Rights.
- (8.22) **Citizenship.** The student understands the importance of the expression of different points of view in a democratic society. The student is expected to
- (B) describe the importance of free speech and press in a democratic society.

Objective 5: The student will use critical thinking skills to analyze social studies information.

- (8.30) **Social studies skills.** The student applies critical-thinking skills to organize and use information acquired from a variety of sources including electronic technology. The student is expected to
- (A) [differentiate between, locate, and] use primary and secondary sources [such as computer software, databases, media and news services, biographies, interviews, and artifacts] to acquire information about the United States;
 - (D) identify points of view from the historical context surrounding an event and the frame of reference which influenced the participants; and
 - (F) identify bias in written, [oral,] and visual material.

TAKS Grade 10 Social Studies (continued)

(WG8) **Geography.** The student understands how people, places, and environments are connected and interdependent. The student is expected to

- (B) compare ways that humans depend on, adapt to, and modify the physical environment using [local,] state, national, and international human activities in a variety of cultural and technological contexts (correlates with WH12B and WH12C).

(WG21) **Social studies skills.** The student applies critical-thinking skills to organize and use information acquired from a variety of sources including electronic technology. The student is expected to

- (C) [construct and] interpret maps to answer geographic questions, infer geographic relationships, and analyze geographic change (correlates with WH11B and WH12C).

(WH25) **Social studies skills.** The student applies critical-thinking skills to organize and use information acquired from a variety of sources including electronic technology. The student is expected to

- (C) analyze information by sequencing, categorizing, identifying cause-and-effect relationships, comparing, contrasting, finding the main idea, summarizing, making generalizations [and predictions,] and drawing inferences and conclusions (correlates with WG21A).

(WH26) **Social studies skills.** The student communicates in written, oral, and visual forms. The student is expected to

- (C) interpret [and create databases, research outlines, bibliographies, and] visuals including graphs, charts, timelines, and maps (correlates with WG21C).