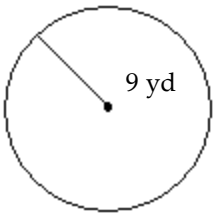
MATH 830/GRACEY
EXAM 2 PRACTICE/CH. 2.4–3 Name_____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Use the formula for the area or circumference of a circle to solve the problem. Where applicable, express answers in terms of π.

1) The circumference of a circle is 32π meters. Find the circle's diameter. 1) _____
A) 16π m B) π m C) 32 m D) 16 m

2) 2) _____



Find the area of the circle.
A) 81π yd^2 B) 13π yd^2 C) 36π yd^2 D) 18π yd^2

3) The circumference of a circle is 10π meters. Find the circle's radius. 3) _____
A) 5 m B) π m C) 5π m D) 10 m

Provide an appropriate answer.

4) Determine whether the points whose coordinates are (2, 1), (3, 4), and (4, 7) lie on a line. 4) _____
A) The points do not lie on a line. B) The points lie on a line.

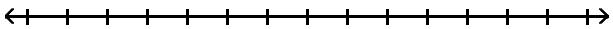
Solve the inequality.

5) $-4(-2 - x) < 6x + 19 - 11 - 2x$ 5) _____
A) $(-\infty, \infty)$ B) $\emptyset$ C) $(-\infty, 8)$ D) $(-\infty, 0)$

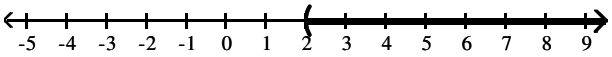
6) $x + 5 \geq x - 3$ 6) _____
A) $[-4, \infty)$ B) $(-\infty, -4]$ C) $(-\infty, \infty)$ D) $\emptyset$

Use the multiplication property of inequality to solve the inequality and graph the solution set on a number line

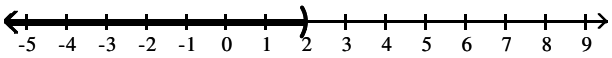
7) $2x \geq -4$ 7) _____



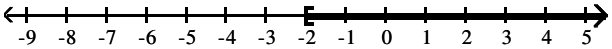
A) $(2, \infty)$



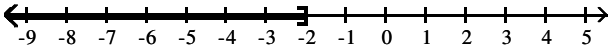
B) $(-\infty, 2)$



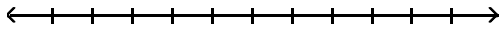
C) $[-2, \infty)$



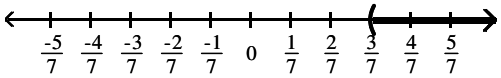
D) $(-\infty, -2]$



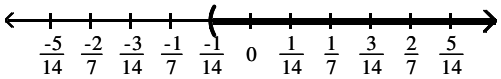
8) $-2x < \frac{1}{7}$ 8) _____



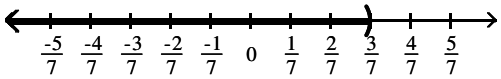
A) $\left(\frac{3}{7}, \infty\right)$



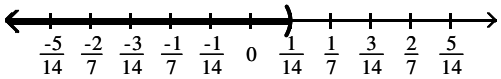
B) $\left(-\frac{1}{14}, \infty\right)$



C) $\left(-\infty, \frac{3}{7}\right)$



D) $\left(-\infty, \frac{1}{14}\right)$



Let x represent the number. Use the given conditions to write an equation. Solve the equation and find the number

9) If 3 times a number is added to –8, the result is equal to 11 times the number. Find the number. 9) _____

A) $3x + (-8) = 11x; -1$ B) $11(3x - 8) = -8; -1$

C) $14x - 11x = 8; 1$ D) $4x + (-8) = 11x; 1$

10) Four times a number added to 7 times the number equals 55. Find the number. 10) _____

A) $4x - 7x = 55; -7.9$ B) $4x + 7x = 55; 5$

C) $4x(7 + x) = 55; 7.9$ D) $4(x + 7) = 55x; 0.5$

Write an equation in slope–intercept form of the line satisfying the given conditions.

11) Parallel to the line $9x + 8y = 52$; containing the point $(4, -1)$. 11) _____

A) $y = \frac{9}{8}x + \frac{7}{2}$ B) $y = -\frac{8}{9}x + 52$ C) $y = -\frac{8}{9}x - 1$ D) $y = -\frac{9}{8}x + \frac{7}{2}$

12) Passing through (3, 3) and parallel to the line whose equation is $y = -9x$. 12) _____

A) $y = -9x + 30$ B) $y = -\frac{1}{9}x - \frac{10}{3}$ C) $y = -9x - 30$ D) $y = 9x - 30$

Determine whether the ordered pair is a solution of the given equation.

13) $(-1, 6)$ 13) _____

$x - y = -5$

A) Yes B) No

14) $(-6, 1)$ 14) _____

$y = x + 7$

A) Yes B) No

Express the percent as a decimal.

15) $\frac{1}{10}\%$ 15) _____

A) 0.01 B) 0.001 C) 0.1 D) 10

16) 0.1% 16) _____

A) 0.002 B) 0.1 C) 0.001 D) 0.01

17) 799% 17) _____

A) 7.99 B) 79.9 C) 0.799 D) 8

18) 26% 18) _____

A) 0.26 B) 0.15 C) 2.6 D) 0.026

Determine whether the lines through each pair of points are parallel.

19) (3, 6) and (19, 10); (–10, 8) and (–2, 10) 19) _____

A) not parallel B) parallel

Determine whether the lines through each pair of points are perpendicular.

20) (–4, 4) and (–2, 2); (10, –1) and (9, –2) 20) _____

A) not perpendicular B) perpendicular

Find the point–slope form of the equation of the line satisfying the given conditions and use this to write the slope–intercept form of the equation.

21) Slope = 8, passing through (5, 5) 21) _____

A) $y = 8x - 35$ B) $y = \frac{1}{8}x - \frac{35}{8}$ C) $y = 8x + 35$ D) $y = -8x + 35$

22) x–intercept = 7 and y–intercept = 3 22) _____

A) $y = -\frac{3}{7}x + 3$ B) $y = \frac{3}{7}x + 3$ C) $y = -7x + 3$ D) $y = -\frac{3}{7}x + 6$

23) Passing through (–4, 3) and (–8, 4) 23) _____

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

24) Slope = $-\frac{4}{5}$, passing through (–5, –4) 24) _____

A) $y = \frac{4}{5}x - 8$ B) $y = -\frac{4}{5}x + 8$ C) $y = \frac{4}{5}x + 8$ D) $y = -\frac{4}{5}x - 8$

25) Passing through (0, –3) and (–5, –13) 25) _____

A) $y = -2x + 3$ B) $y = 2x + 3$ C) $y = 2x - 3$ D) $y = -2x - 3$

Solve the problem.

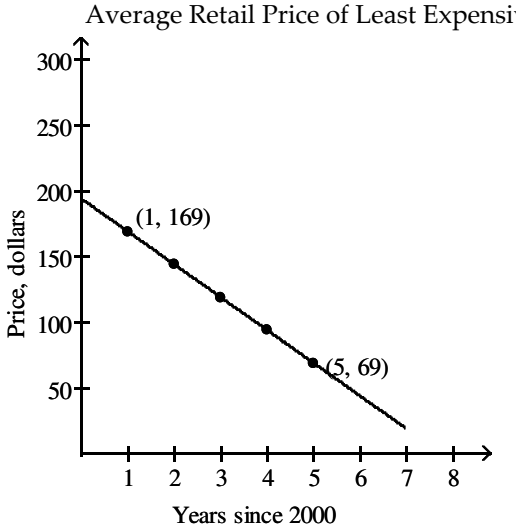
26) Jeans are on sale at the local department store for 20% off. If the jeans originally cost $41, find the sale price. (Round to the nearest cent, if necessary.) 26) _____

A) $49.20 B) $40.18 C) $32.80 D) $8.20

27) The president of a certain university makes three times as much money as one of the department heads. If the total of their salaries is $220,000, find each worker's salary. 27) _____

A) president's salary = $55,000; department head's salary = $165,000
B) president's salary = $16,500; department head's salary = $5500
C) president's salary = $110,000; department head's salary = $55,000
D) president's salary = $165,000; department head's salary = $55,000

28) The graph below shows the average retail price of the least-expensive DVD player available at Mega Mart over the past few years. Use the two points whose coordinates are given to find the slope-intercept form of an equation that models the data. 28) _____



A) $y = -25x + 194$ B) $y = -25x + 169$ C) $y = -25x + 195$ D) $y = -20x + 194$

29) If 4 is increased to 7, the increase is what percent of the original number? 29) _____
A) 0.75% B) 0.0075% C) 7.5% D) 75%

30) The linear equation in two variables $y = 2x + 85$ models the total cost, y, in dollars, for towing a car x miles. The equation indicates that the towing company charges a fixed amount of $85 to send a truck to pick up the car plus a cost of $2 for each mile the car is towed. Find a solution of $y = 2x + 85$ using 9 for x. 30) _____
A) (9, 93) B) (9, 87) C) (9, 103) D) (9, 18)

31) If 40 is decreased to 35, the decrease is what percent of the original number? 31) _____
A) 0.00125% B) 1.25% C) 0.125% D) 12.5%

32) An isosceles triangle contains two angles of the same measure. If the measure of the third angle is 39° less than the measure of either of the other two identical angles, find the measure of one of the identical angles. (Hint: The sum of the angles of a triangle is 180°.) 32) _____
A) 73° B) 34° C) 53° D) 109.5°

33) An archery set containing a bow and three arrows costs $42. Additional arrows can be purchased for $4 each. Gerri has $74 to spend on the set and additional arrows. Including the arrows in the set, what is the maximum total number of arrows Gerri can purchase? 33) _____
A) at most 11 arrows B) at most 8 arrows
C) at most 18 arrows D) at most 1 arrow(s)

34) Of the 20 students in an algebra class, 5 of them received an F on the mid-term exam. What percent of the algebra students received an F on the exam? (Round to the nearest tenth of a percent, if necessary.) 34) _____
A) 4% B) 25% C) 40% D) 250%

35) A 12–ft. board is cut into 2 pieces so that one piece is 8 feet longer than 3 times the shorter piece. If the shorter piece is x feet long, find the lengths of both pieces. 35) _____

A) shorter piece: 6 ft; longer piece: 36 ft.
B) shorter piece: 1 ft.; longer piece: 11 ft.
C) shorter piece: 24 ft; longer piece: 44 ft.
D) shorter piece: 28 ft; longer piece: 36 ft.

36) A customer at a store bought 3 bottles of juice and 4 fruit pies for a total cost of $48.75. If a bottle of juice costs $4.25, find the cost of a fruit pie. 36) _____

A) $9.75 B) $10.00 C) $8.25 D) $9.00

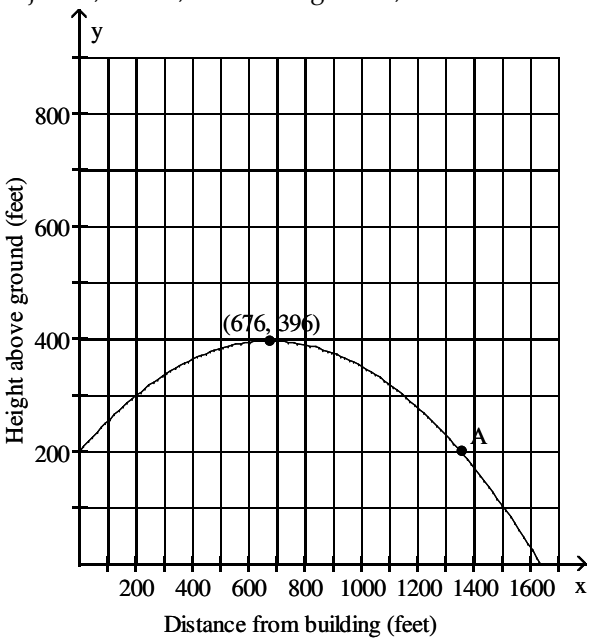
37) Two angles are complementary if their sum is 90°. If the measure of the first angle is x°, and the measure of the second angle is (3x – 2)°, find the measure of each angle. 37) _____

A) 1st angle = 22°; 2nd angle = 68°
B) 1st angle = 31°; 2nd angle = 59°
C) 1st angle = 22°; 2nd angle = 64°
D) 1st angle = 23°; 2nd angle = 67°

38) It takes 26 minutes to set up a candy making machine. Once the machine is set up, it produces 15 candies per minute. Use an inequality to find the number of candies that can be produced in 5 hours if the machine has not yet been set up. 38) _____

A) at most 7410 candies
B) at most 75 candies
C) at most 1950 candies
D) at most 4110 candies

39) A projectile is fired from the top of a building 200 feet high. The graph shows the height of the projectile, in feet, above the ground, in terms of its distance, in feet, from the base of the building. 39) _____



Estimate the coordinates of the point A. Interpret the coordinates in terms of the information given.

A) approximately (1350, 200); the projectile is 1350 feet above the ground 200 seconds after it is fired.
B) approximately (1350, 200); the projectile is 200 feet above the ground when it is 1350 feet from the base of the building.
C) approximately (200, 1350); the projectile is 1350 feet from the base of the building 200 seconds after it is fired
D) approximately (1350, 200); the projectile is 1350 feet above the ground when it is 200 feet from the base of the building.

Solve.

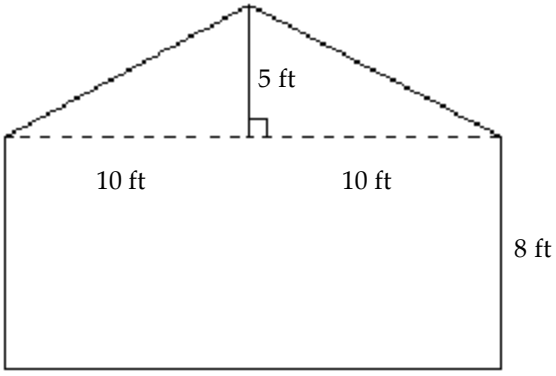
40) To trim the edges of a rectangular table cloth, 48 feet of lace are needed. The length of the table cloth is exactly one–half its width. What are the dimensions of the table cloth? 40) _____

A) length: 8 feet; width: 16 feet
B) length: 16 feet; width: 8 feet
C) length: 4 feet; width: 8 feet
D) length: 16 feet; width: 32 feet

41) Find the volume of an aluminum can that has a radius of 6.5 centimeters and a height of 15 centimeters. Use $\pi = 3.14$ and round to the nearest tenth. 41) _____

A) 306.2 cm^3 B) 612.3 cm^3 C) 1990 cm^3 D) 7959.9 cm^3

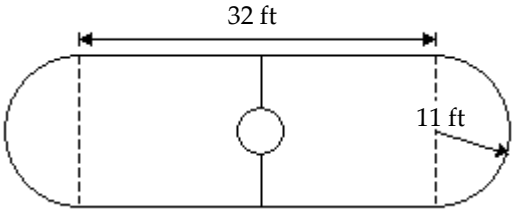
42) 42) _____



The drawing shows the end of a building that is to be bricked. If the area of the side of a brick used is $\frac{1}{10}$ sq. ft, find the number of bricks needed to completely cover the side of the building.

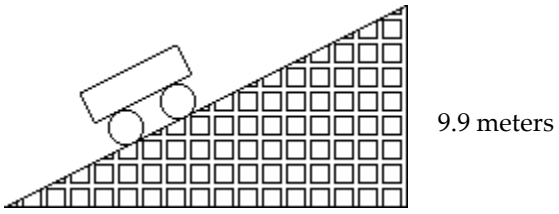
A) 2100 bricks B) 2600 bricks C) 210 bricks D) 21 bricks

43) Find the area of the skating rink. Use $\pi = 3.14$ and round to the nearest tenth. 43) _____



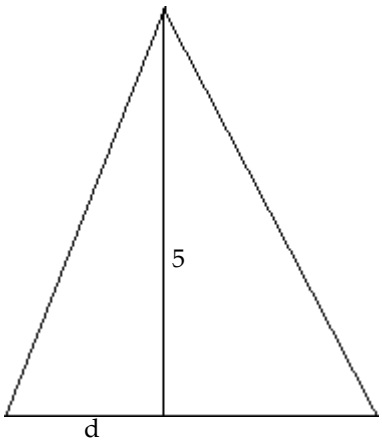
A) 1111.9 sq. ft B) 1083.9 sq. ft C) 731.9 sq. ft D) 1463.9 sq. ft

44) A section of roller coaster track has the dimensions shown in the diagram. Find the grade of the track, which is the slope written as a percent. 44) _____



A) 9.9% B) 3% C) 33% D) 38%

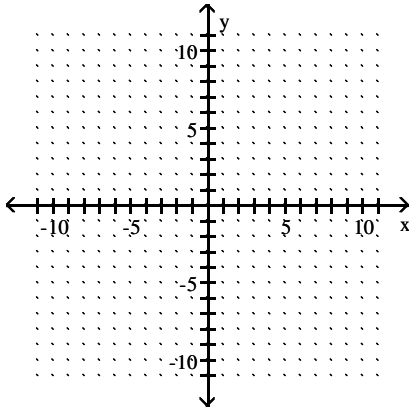
45) A tent has the dimensions shown in feet. Find d so that the pitch of the left side of the roof is $\frac{5}{3}$. 45) _____



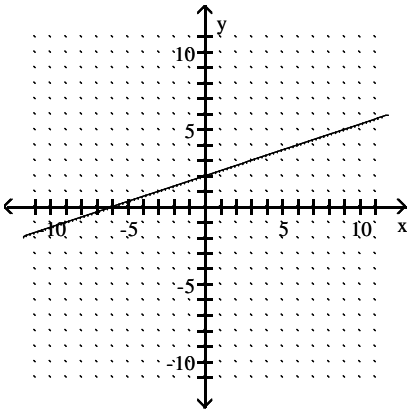
A) $1\frac{2}{3}$ feet B) 3 feet C) 4 feet D) $\frac{1}{3}$ feet

Find the y– and x–intercepts for the equation. Then graph the equation.

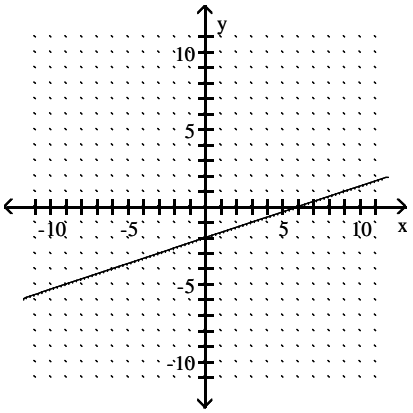
46) $4x - 12y = 24$ 46) _____



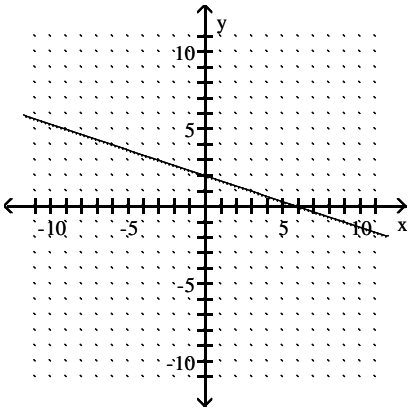
A) (0, 2); (–6, 0)



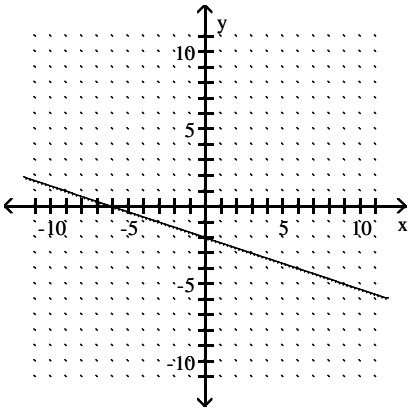
B) (0, –2); (6, 0)



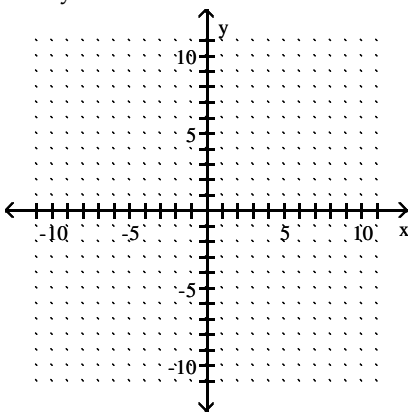
C) (0, 2); (6, 0)



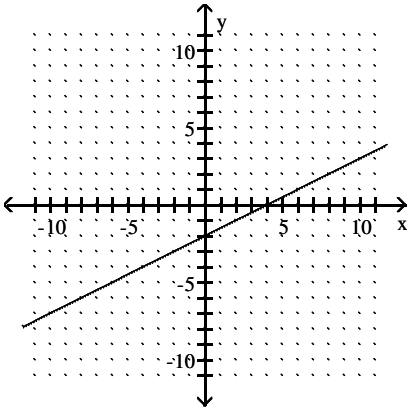
D) (0, –2); (–6, 0)



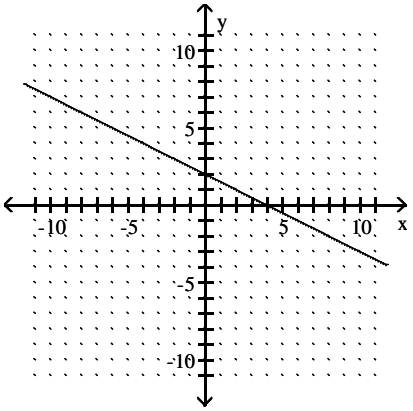
47) $x - 2y = 4$ 47) _____



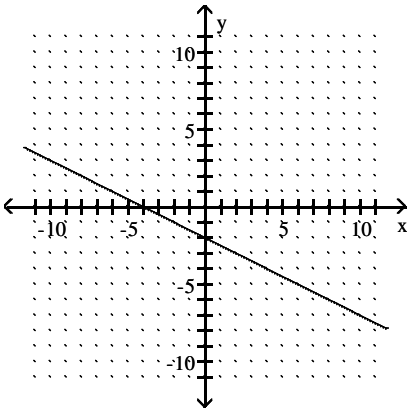
A) (0, –2); (4, 0)



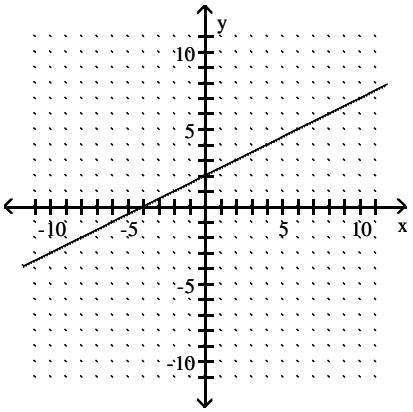
B) (0, 2); (4, 0)



C) (0, –2); (–4, 0)



D) (0, 2); (–4, 0)



Use the relationship among the three angles of any triangle to solve the problem.

48) One of the base angles of an isosceles triangle is 39°. Find the measures of the other two angles. (An isosceles triangle has two equal base angles.) 48) _____

A) 39°, 282° B) 39°, 102° C) 39°, 12° D) 39°, 78°

49) A triangle has angles of $(4x)°$, $(3x + 6)°$, and $(2x + 3)°$. Find the measure of each angle. 49) _____

A) 19°, 63°, 76° B) 19°, 41°, 76° C) 41°, 63°, 76° D) 41°, 57°, 76°

50) Two angles of a triangle are 40° and 30°. Find the third angle. 50) _____

A) 70° B) 290° C) 110° D) 20°

Use the percent formula, A = PB: A is P percent of B, to solve.

51) 999 is what percent of 333? 51) _____

A) 3% B) 0.3% C) 300% D) 33.33%

52) 98 is 50% of what number? 52) _____

A) 49 B) 1960 C) 19.6 D) 196

53) What number is 7% of 120? 53) _____

A) 840 B) 0.84 C) 84 D) 8.4

54) 28% of what number is 16.8? 54) _____

A) 4.704 B) 60 C) 0.6 D) 470.4

Find the slope.

55) Find the slope of a line parallel to the line $y = -2x - 4$. 55) _____

A) –4 B) $\frac{1}{2}$ C) – 2 D) undefined

56) Find the slope of a line perpendicular to the line $x = 5$. 56) _____

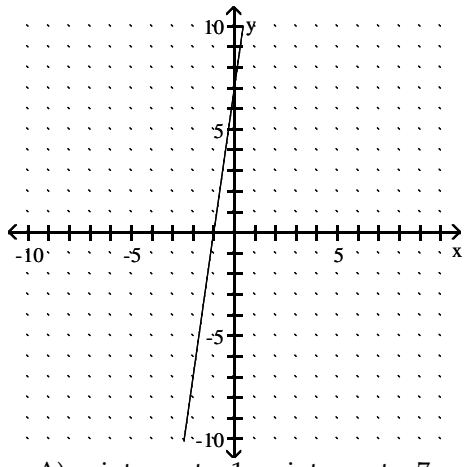
A) 5 B) $\frac{1}{5}$ C) undefined D) 0

57) Find the slope of a line perpendicular to the line $y = \frac{1}{3}x + 3$. 57) _____

A) undefined B) 3 C) – 3 D) $\frac{1}{3}$

Use the graph to identify the x– and y– intercepts or state that there is no x– or y–intercept.

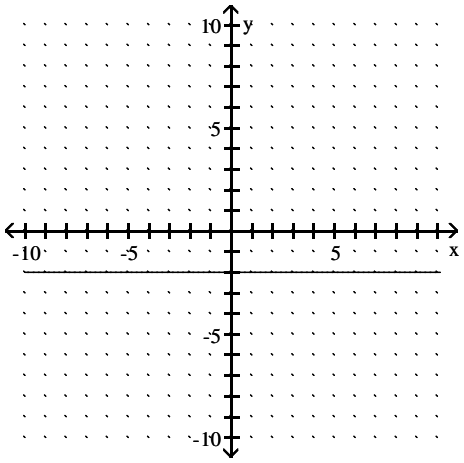
58) 58) _____



A) x–intercept = 1; y–intercept = 7 B) x–intercept = –1; y–intercept = 7

C) x–intercept = –1; y–intercept = –7 D) x–intercept = –7; y–intercept = –7

59) 59) _____



A) x–intercept = –2; y–intercept = 0 B) no x–intercept; y–intercept = –2
C) x–intercept = –2; no y–intercept D) x–intercept = 0; y–intercept = 2

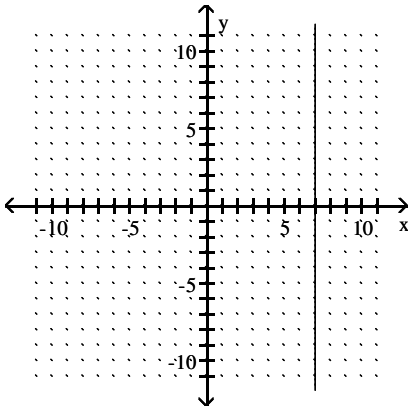
Solve the equation for y.

60) $x = 7y + 8$ 60) _____

A) $y = \frac{x - 8}{7}$ B) $y = x - \frac{8}{7}$ C) $y = 7x - 8$ D) $y = \frac{1}{7}x - 8$

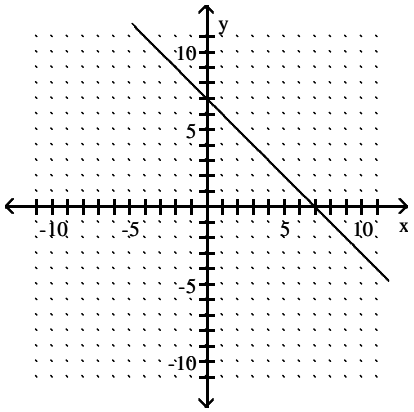
Find the slope of the line, or state that the slope is undefined.

61) 61) _____



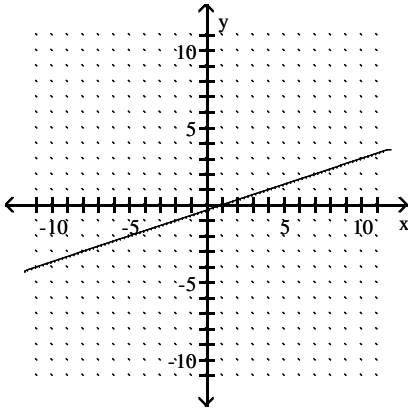
A) 7 B) 0 C) Undefined D) –7

62) 62) _____



A) 1 B) –1 C) 7 D) –7

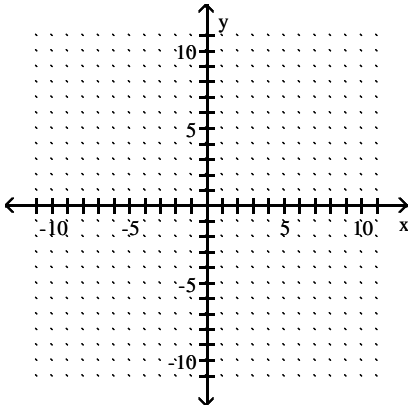
63) 63) _____



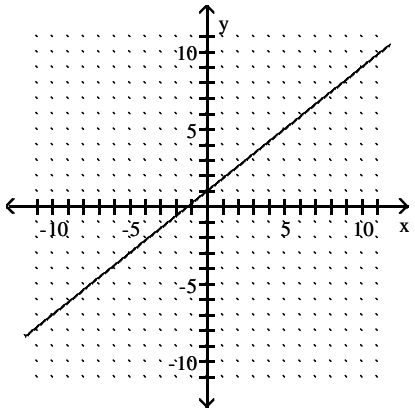
A) 3 B) $-\frac{1}{3}$ C) –3 D) $\frac{1}{3}$

Graph the linear equation using the slope and y–intercept.

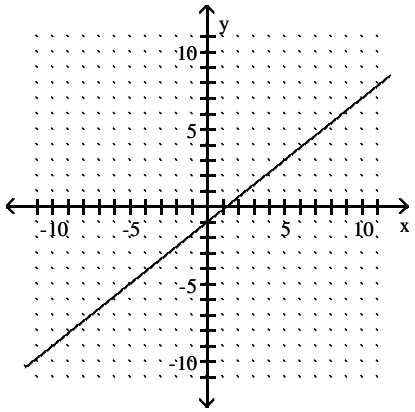
64) $y = \frac{4}{5}x + 1$ 64) _____



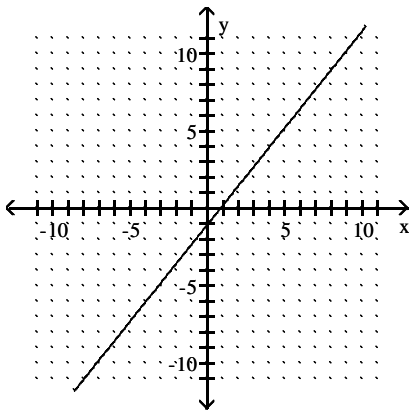
A)


y
10
5
-10
-5
5
10
x
-5
-10

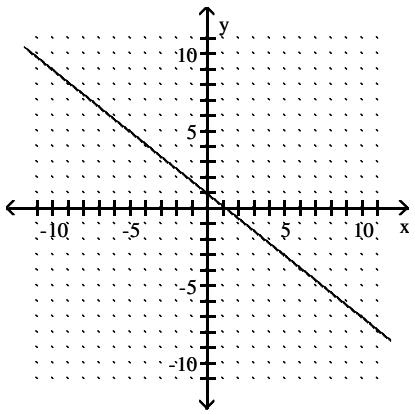
B)


y
10
5
-10
-5
5
10
x
-5
-10

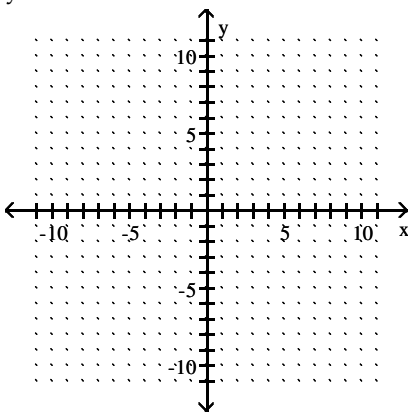
C)


y
10
5
-10
-5
5
10
x
-5
-10

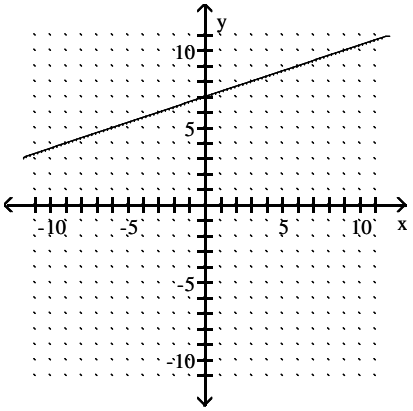
D)


y
10
5
-10
-5
5
10
x
-5
-10

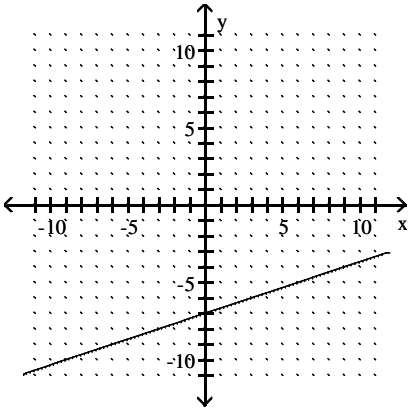
65) y = –3x – 7 65) _____



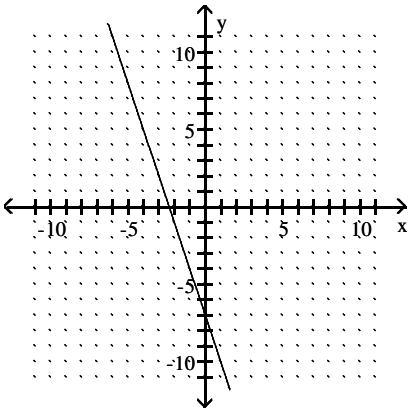
A)



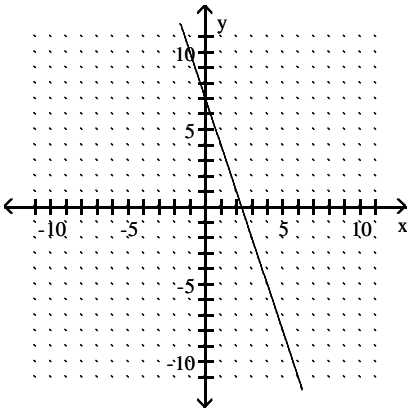
B)



C)



D)



Express the decimal as a percent.

66) 0.071 66) _____

A) 0.0071% B) 0.071% C) 7.1% D) 71%

67) 0.76 67) _____

A) 0.076% B) 7.6% C) 76% D) 760%

Solve the formula for the specified variable.

68) $A = \frac{1}{2}bh$ for b 68) _____

A) $b = \frac{Ah}{2}$ B) $b = \frac{2A}{h}$ C) $b = \frac{h}{2A}$ D) $b = \frac{A}{2h}$

69) $S = 2\pi rh + 2\pi r^2$ for h 69) _____

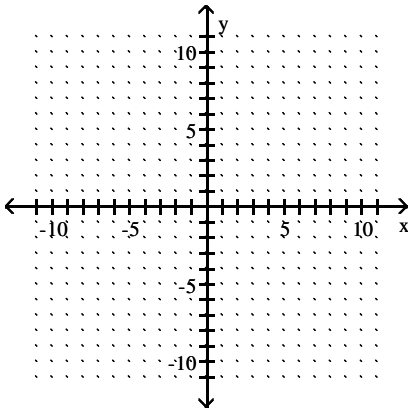
A) $h = S - r$ B) $h = \frac{S}{2\pi r} - 1$ C) $h = 2\pi(S - r)$ D) $h = \frac{S - 2\pi r^2}{2\pi r}$

70) $P = 2L + 2W$ for W 70) _____

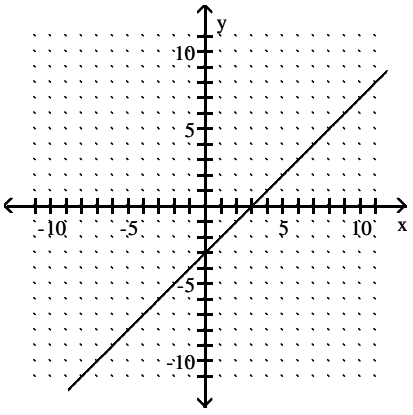
A) $W = d - 2L$ B) $W = \frac{P - 2L}{2}$ C) $W = P - L$ D) $W = \frac{P - L}{2}$

Write the sentence as a linear equation in two variables. Then graph the equation.

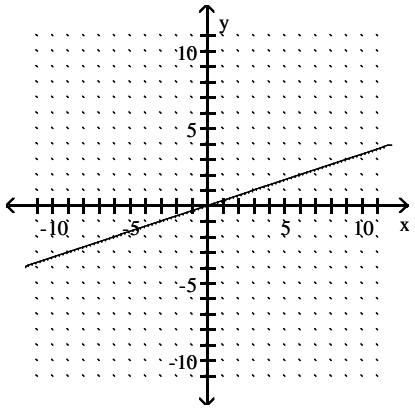
71) The y–variable is 3 less than the x–variable. 71) _____



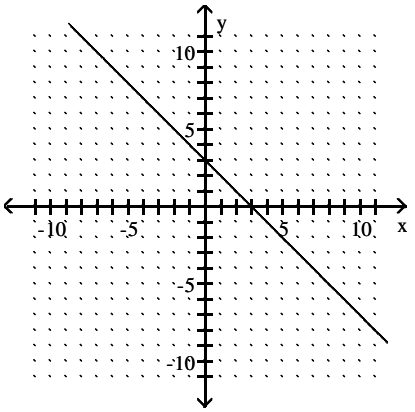
A) $y = x - 3$



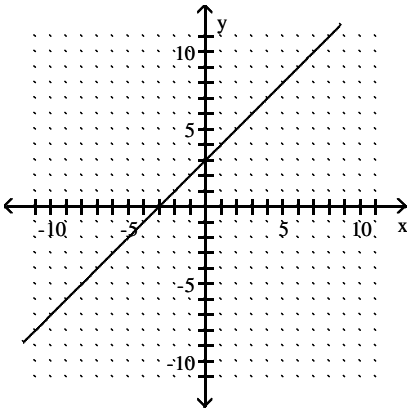
B) $y = \frac{x}{3}$



C) y = 3 – x

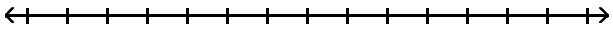


D) y – 3 = x

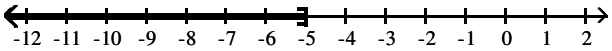


Use the addition property of inequality to solve the inequality and graph the solution set on a number line

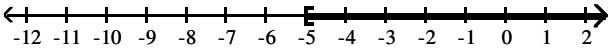
72) x – 2 ≤ –7 72) _____



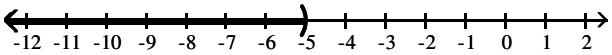
A) (–∞, –5]



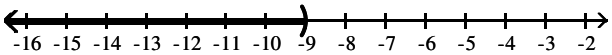
B) [–5, ∞)



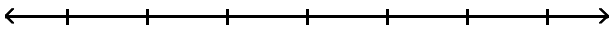
C) (–∞, –5)



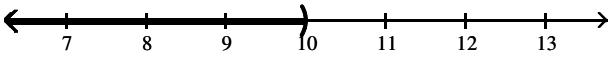
D) (–∞, –9)



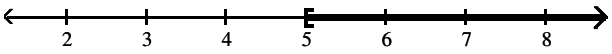
73) $10x + 6 \leq 9x + 11$ 73) _____



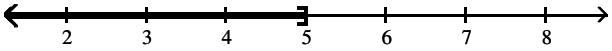
A) $(-\infty, 10)$



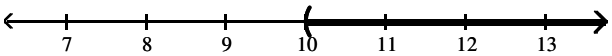
B) $[5, \infty)$



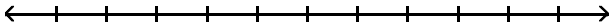
C) $(-\infty, 5]$



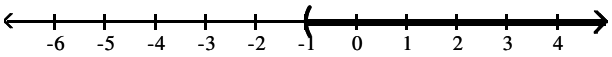
D) $(10, \infty)$



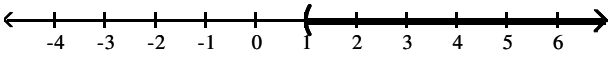
74) $4 - x > 3$ 74) _____



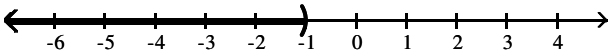
A) $(-1, \infty)$



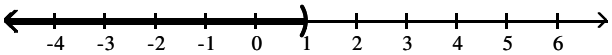
B) $(1, \infty)$



C) $(-\infty, -1)$



D) $(-\infty, 1)$



Find the slope of the line.

75) $4x + 6y = 60$ 75) _____

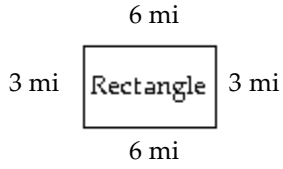
A) $\frac{3}{2}$ B) $-\frac{2}{3}$ C) 10 D) $\frac{2}{3}$

76) $y = 2x$ 76) _____

A) 0 B) $\frac{1}{2}$ C) -2 D) 2

Use a formula for perimeter or area to solve the problem.

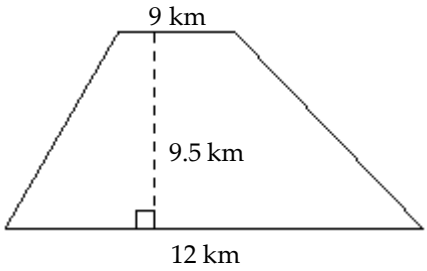
77) 77) _____



Find the perimeter of the figure.

A) 12 mi B) 6 mi C) 18 mi D) 9 mi

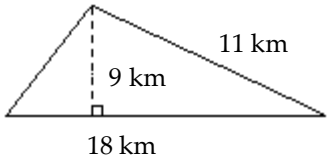
78) 78) _____



Find the area of the trapezoid.

A) 114 km^2 B) 199.5 km^2 C) 85.5 km^2 D) 99.75 km^2

79) 79) _____

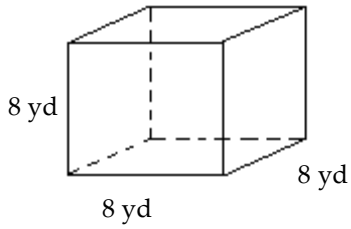


Find the area of the triangle.

A) 49.5 km^2 B) 162 km^2 C) 81 km^2 D) 99 km^2

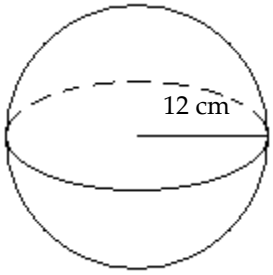
Find the volume of the figure. Where applicable, express answers in terms of π.

80) 80) _____



A) 64 yd^3 B) 128 yd^3 C) 512 yd^3 D) 24 yd^3

81) 81) _____



A) 6912π cm^3 B) 1728π cm^3 C) 2304π cm^3 D) 256π cm^3

Find the slope of the line passing through the pair of points or state that the slope is undefined

82) (19, 8) and (7, –10) 82) _____

A) $\frac{3}{2}$ B) $-\frac{3}{2}$ C) $-\frac{1}{13}$ D) $\frac{2}{3}$

83) (7, –9) and (7, 5) 83) _____

A) undefined B) – 1 C) $-\frac{2}{7}$ D) 0

84) (6, 5) and (4, 5) 84) _____

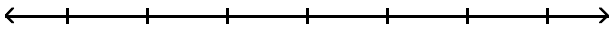
A) 1 B) 0 C) undefined D) – 5

85) (7, 2) and (8, 7) 85) _____

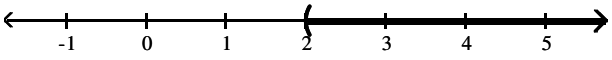
A) $\frac{1}{5}$ B) – 5 C) 5 D) $\frac{3}{5}$

Use both the addition and multiplication properties of inequality to solve the inequality. Graph the solution set on a number line.

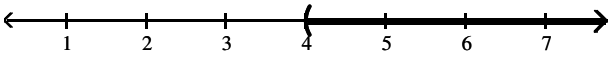
86) $-3x + 2 - 6x < 2 - 11x + 4$ 86) _____



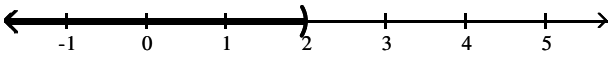
A) $(2, \infty)$



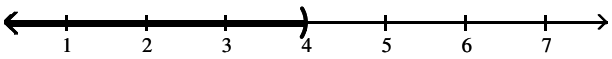
B) $(4, \infty)$



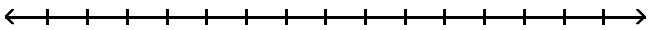
C) $(-\infty, 2)$



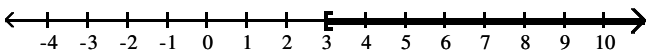
D) $(-\infty, 4)$



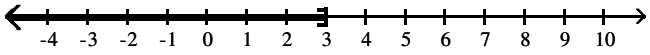
87) $2x - 2 \geq 8$ 87) _____



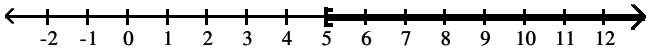
A) $[3, \infty)$



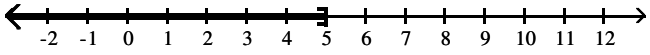
B) $(-\infty, 3]$



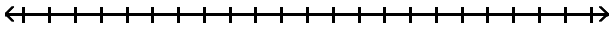
C) $[5, \infty)$



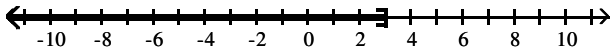
D) $(-\infty, 5]$



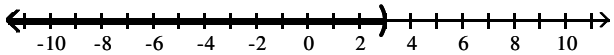
88) $6 - 2(2 - x) \leq 8$ 88) _____



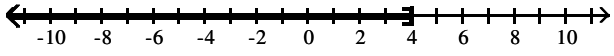
A) $(-\infty, 3]$



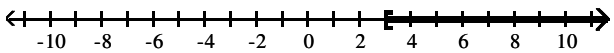
B) $(-\infty, 3)$



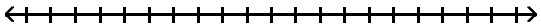
C) $(-\infty, 4]$



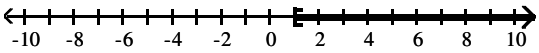
D) $[3, \infty)$



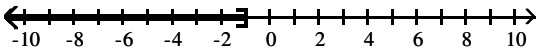
89) $\frac{2}{3}(2x - 1) < -2$ 89) _____



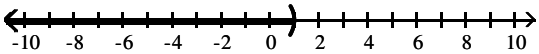
A) [1, ∞)



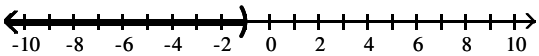
B) (−∞, − 1]



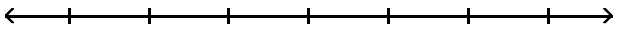
C) (−∞, 1)



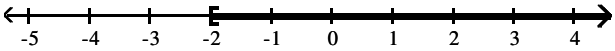
D) (−∞, − 1)



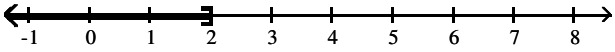
90) $8r - 3 \geq 6r - 7$ 90) _____



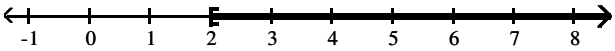
A) [−2, ∞)



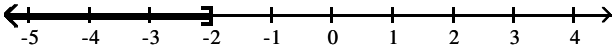
B) (−∞, 2]



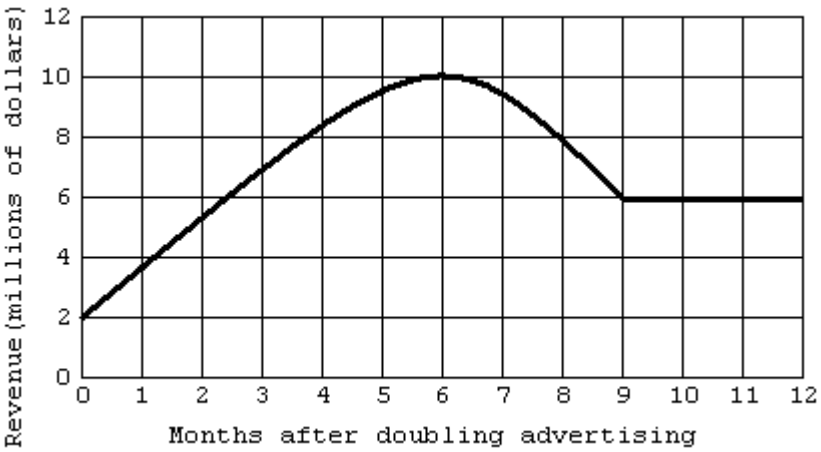
C) [2, ∞)



D) (−∞, −2]



The graph shows the monthly revenue in millions of dollars of a growing company after the company doubled its advertising. Use the graph to solve the problem.



91) How many months after the company doubled its advertising did the minimum monthly revenue occur. 91) _____

A) 6 months B) 9 months C) 12 months D) 0 months

92) During what period of time is the company's monthly revenue decreasing? 92) _____

A) From the time that the advertising was doubled until the 9th month
B) From the time that the advertising was doubled until the 6th month
C) From the 9th month to the 12th month
D) From the 6th month to the 9th month

Find the measure of the indicated angle.

93) The angle's measure is 60° more than triple that of its supplement. 93) _____

A) 105° B) 75° C) 120° D) 150°

94) Find the measure of the complement of 12°. 94) _____

A) 348° B) 258° C) 168° D) 78°

95) Find the measure of the supplement of 136°. 95) _____

A) 224° B) not possible C) 44° D) 134°

Find the x–intercept and the y–intercept of the graph of the equation. Do not graph the equation.

96) $-2x - 2y = 6$ 96) _____

A) x–intercept = –6; y–intercept = –6
B) x–intercept = –6; y–intercept = 0
C) x–intercept = –3; y–intercept = –3
D) x–intercept = –3; y–intercept = 3

97) $x + y = 5$ 97) _____

A) x–intercept = 5; no y–intercept
B) x–intercept = 0; y–intercept = 5
C) x–intercept = 5; y–intercept = 5
D) x–intercept = 2; y–intercept = 3

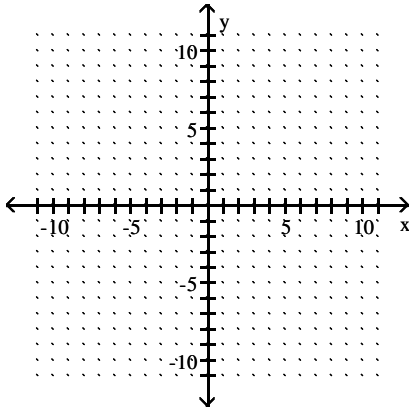
Find the y–intercept.

98) $8x + 4y = 3$ 98) _____

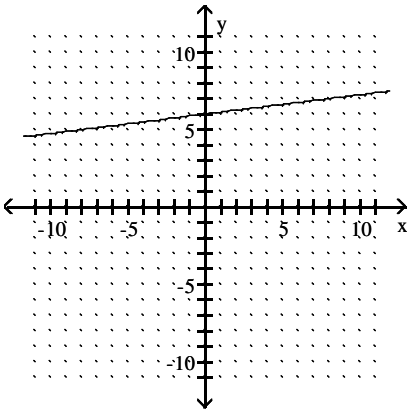
A) – 2 B) $\frac{3}{4}$ C) 3 D) 0

Put the equation in slope–intercept form by solving for y. Use the slope and y–intercept to graph the equation.

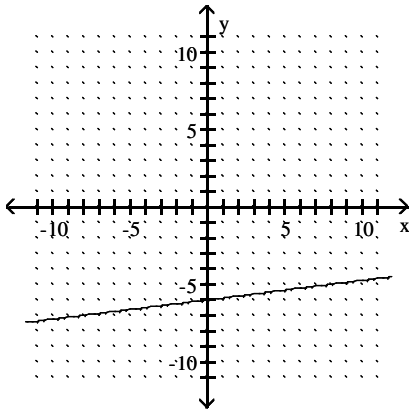
99) $8x + y = 6$ 99) _____



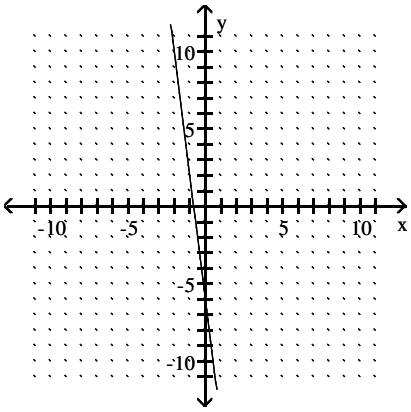
A)



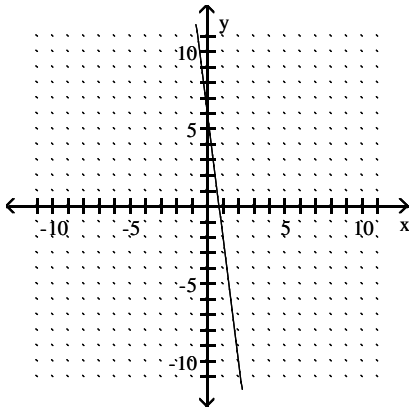
B)



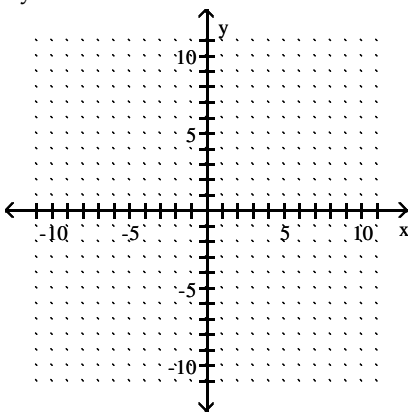
C)



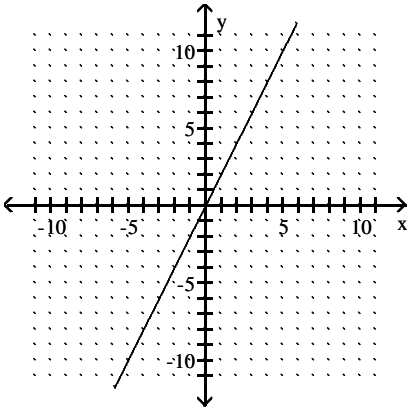
D)



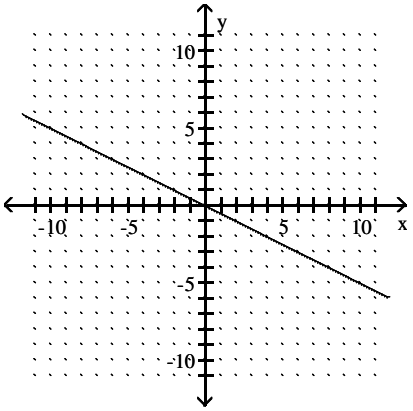
100) $4y = 2x$ 100) _____



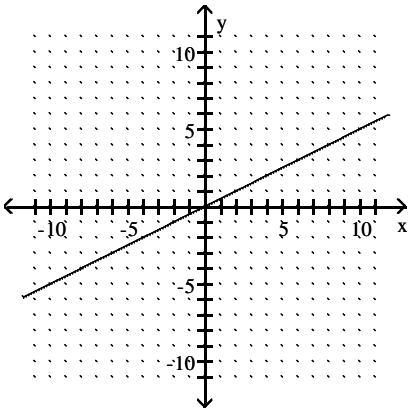
A)



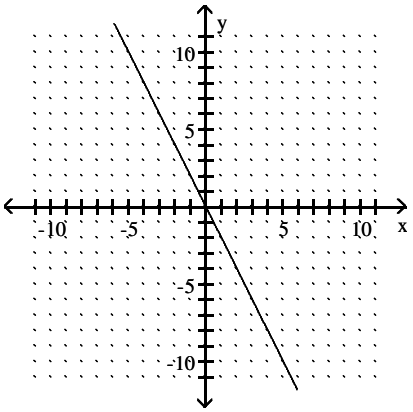
B)



C)

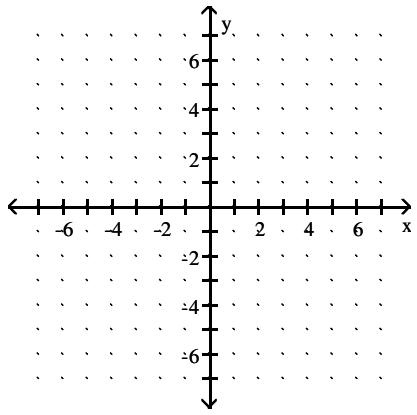


D)

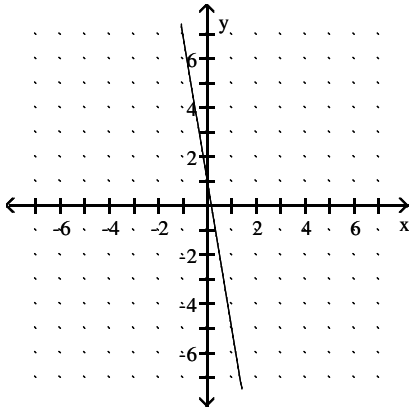


Graph the linear equation in two variables.

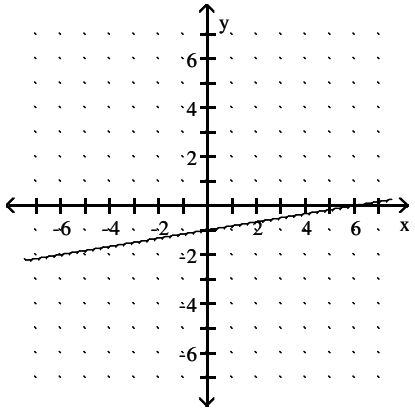
101) $y = \frac{1}{6}x - 1$ 101) _____



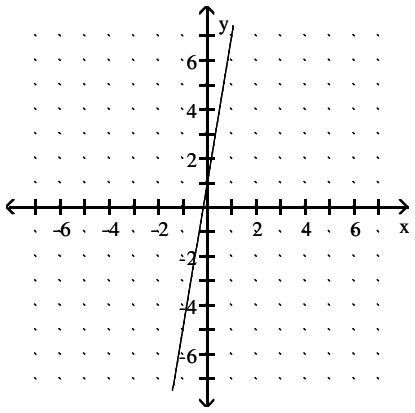
A)



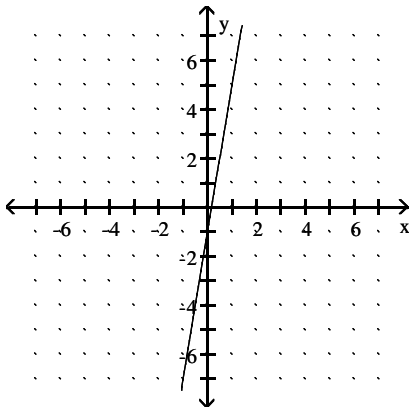
B)



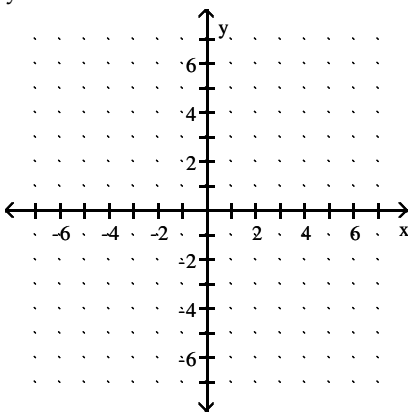
C)



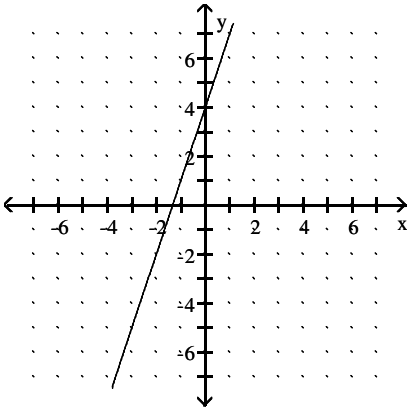
D)



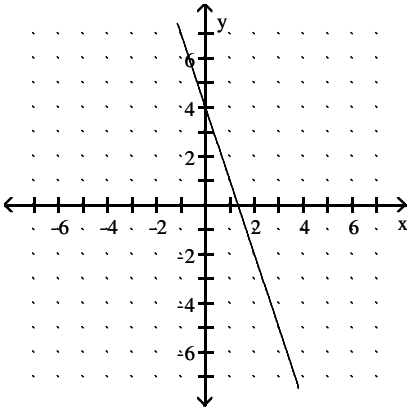
102) $y = 3x - 4$ 102) _____



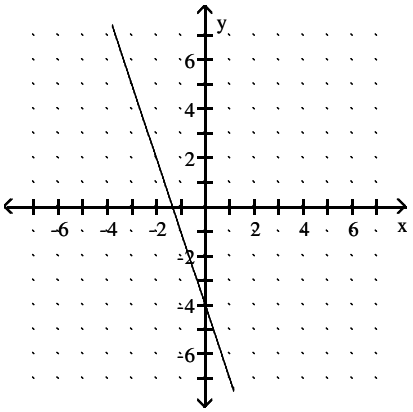
A)



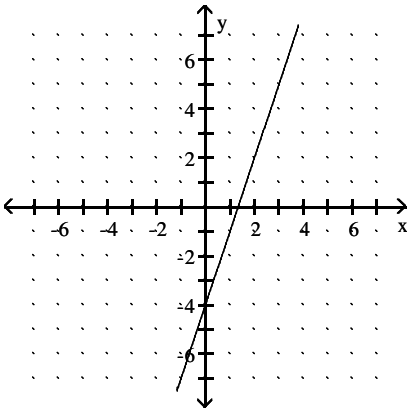
B)



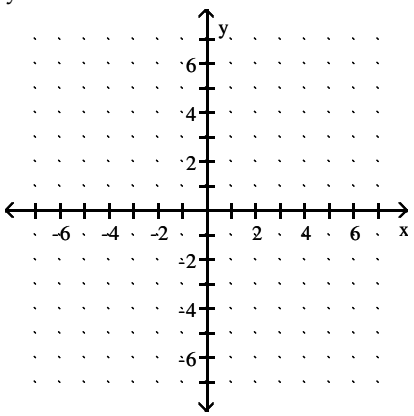
C)



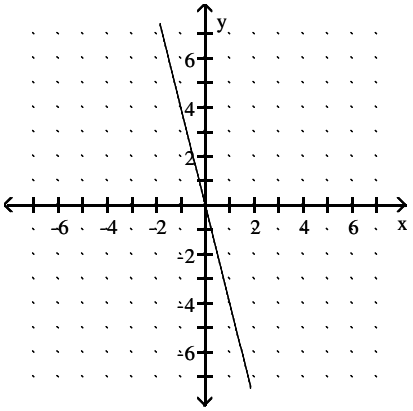
D)



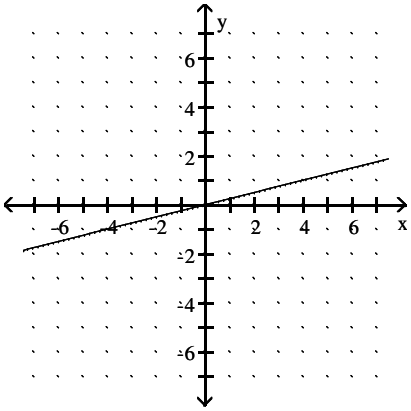
103) $y = -4x$ 103) _____



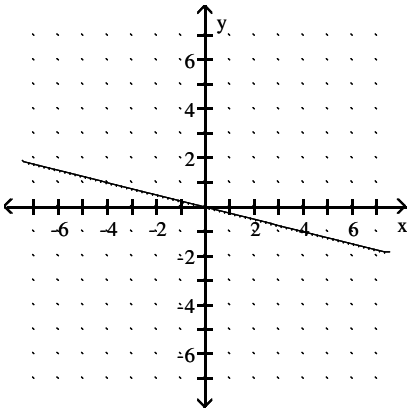
A)



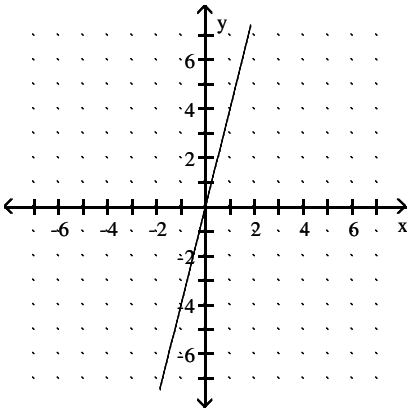
B)



C)

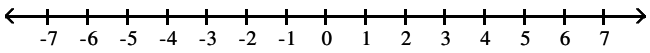


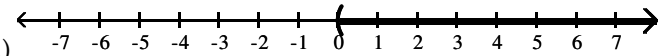
D)

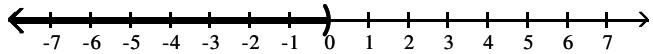


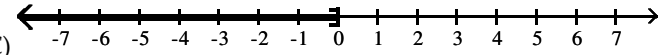
Graph the solution of the inequality on a number line.

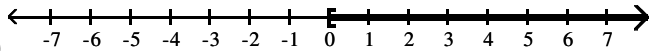
104) $x \leq 0$ 104) _____



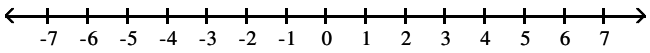
A) 

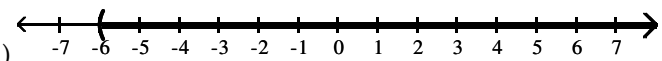
B) 

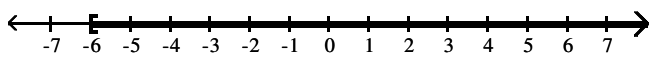
C) 

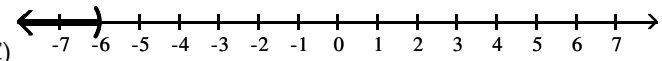
D) 

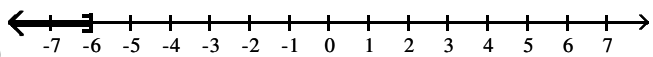
105) $x > -6$ 105) _____



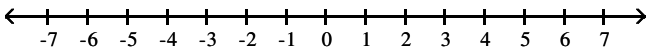
A) 

B) 

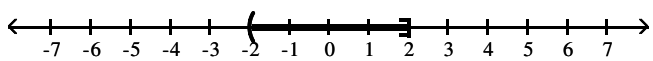
C) 

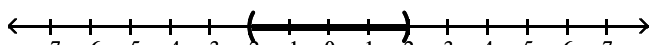
D) 

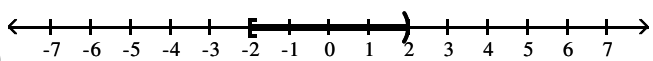
106) $-2 \leq x < 2$ 106) _____



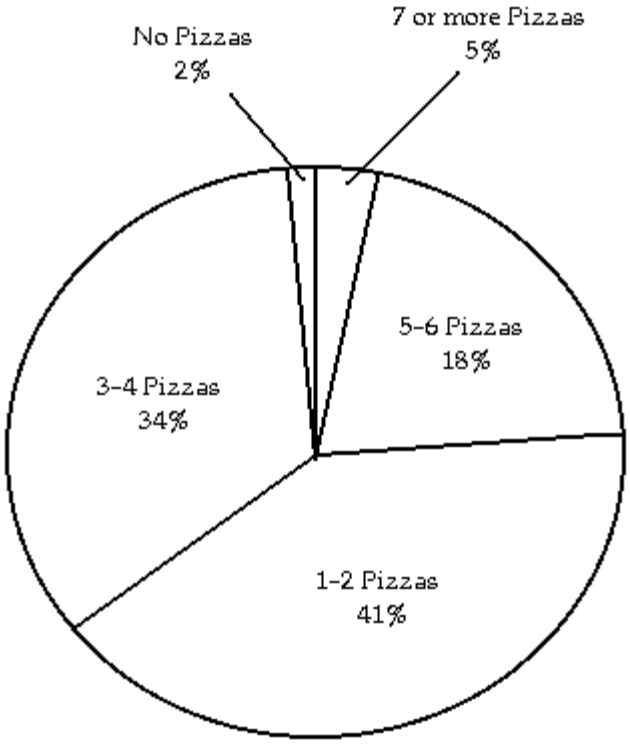
A) 

B) 

C) 

D) 

The pie chart below shows the number of pizzas consumed by college students in a typical month. Use the chart tc answer the question.



107) What percent of college students consume no pizzas in a typical month? 107) _____
A) 34% B) 2% C) 5% D) 18%

108) What percent of college students consume 1–2 pizzas in a typical month? 108) _____
A) 34% B) 2% C) 18% D) 41%

109) If State University has approximately 22,000 students, about how many would you expect to consume 5–6 pizzas in a typical month? 109) _____
A) 396 students B) 7480 students C) 3960 students D) 748 students

Indicate in which quadrant the point lies.

110) (9, 3) 110) _____
A) II B) I C) III D) IV

111) (14, –8) 111) _____
A) I B) IV C) III D) II

Find a solution to the equation using the value given for x.

112) $y = -9x - 7$; $x = -4$ 112) _____
A) (–4, –16) B) (–4, 29) C) (–4, 64) D) (–4, 37)

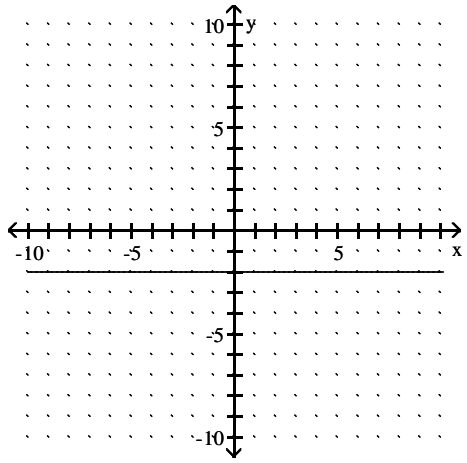
113) $y = 8x$; $x = 6$. 113) _____
A) (6, 48) B) (6, –2) C) (6, 54) D) (6, 14)

114) $y = 4x - 8$; $x = 3$ 114) _____

A) (3, –4) B) (3, 20) C) (3, 4) D) (3, –12)

Write an equation for the graph.

115) 115) _____



A) $x = 2$ B) $y = -2$ C) $x = -2$ D) $y = 2$

Let x represent the number. Write the English phrase as an algebraic expression.

116) The product of –17 and the sum of a number and 28. 116) _____

A) –17 + 28x B) –17x + 28 C) –17(x + 28) D) –476x

117) Eight times a number decreased by two–thirds of the same number. 117) _____

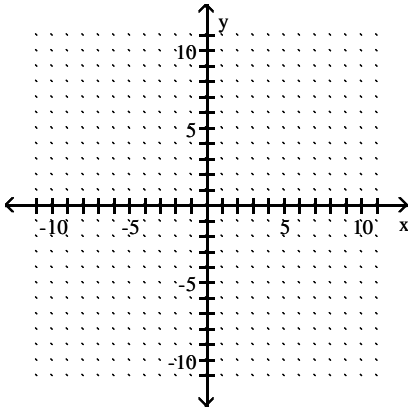
A) $8(x - \frac{2}{3})$ B) $8x - \frac{2x}{3}$ C) $8x - \frac{2}{3}$ D) $\frac{2x}{3} - 8x$

118) The product of 16 and a number, added to 3. 118) _____

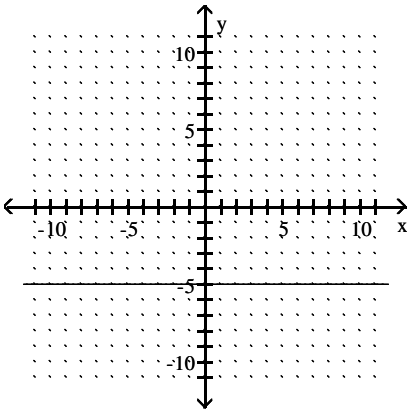
A) 3 + 16x B) 48x C) 16 + 3x D) 48 + x

Graph the equation.

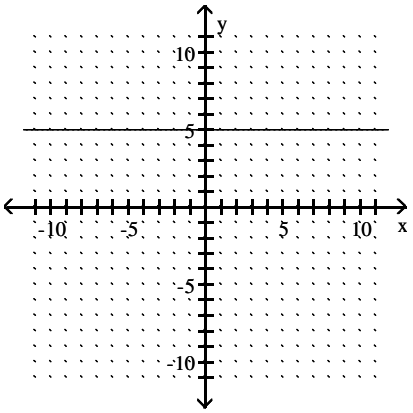
119) $y + 5 = 0$ 119) _____



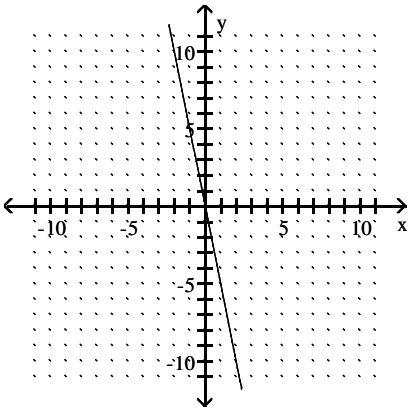
A)



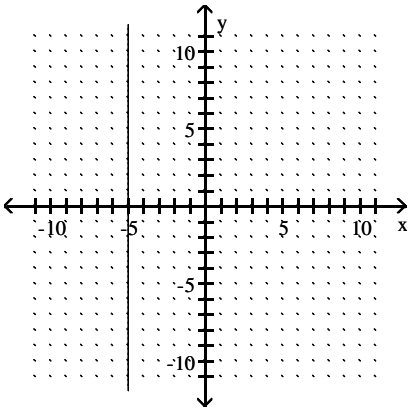
B)



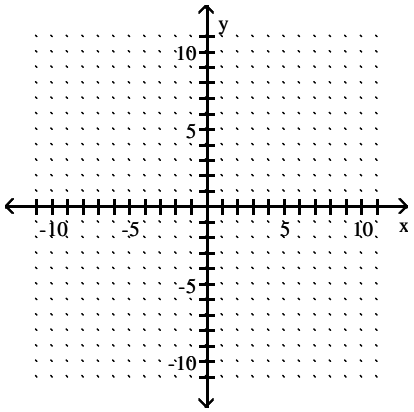
C)



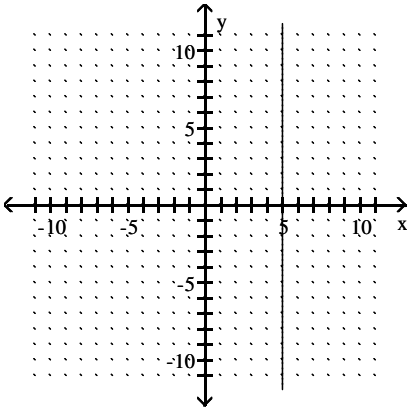
D)



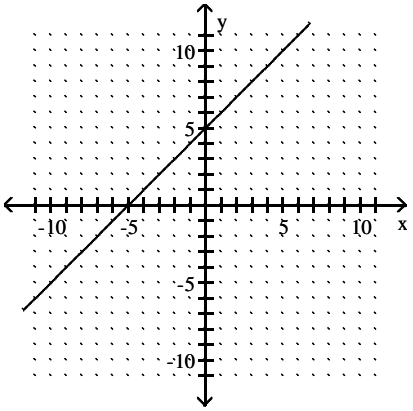
120) x = –5 120) _____



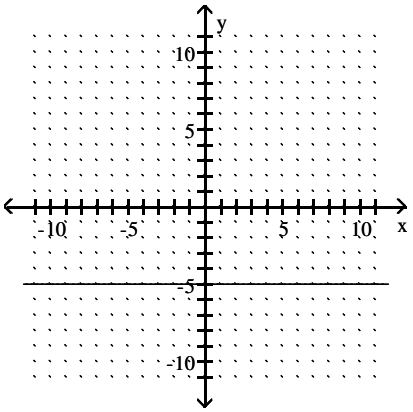
A)



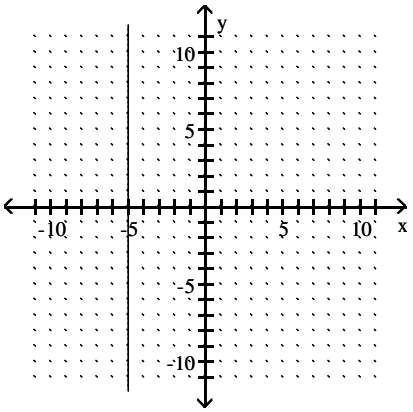
B)



C)



D)



Express the solution set of the inequality in interval notation.

121) x ≥ –22 121) _____

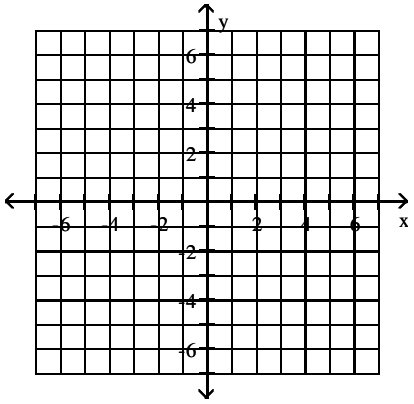
A) (–22, ∞) B) (–∞, –22) C) (–∞, –22] D) [–22, ∞)

122) x < 4 122) _____

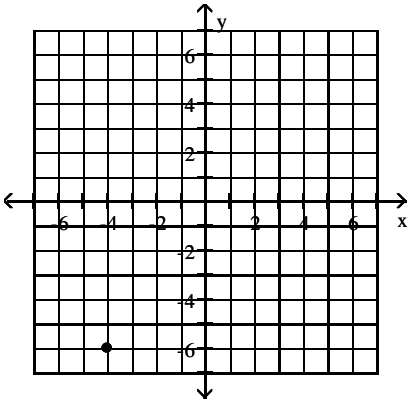
A) (–∞, 4) B) (–∞, 4] C) (4, ∞) D) [4, ∞)

Plot the given point in a rectangular coordinate system.

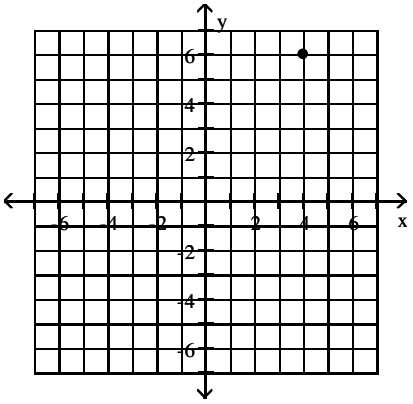
123) (–4, 6) 123) _____



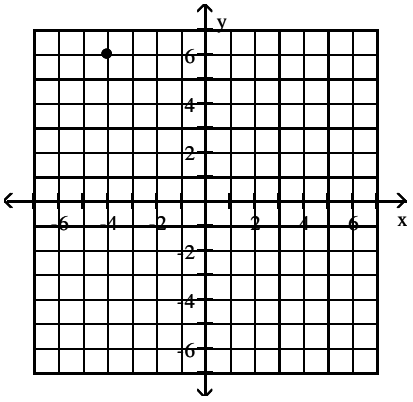
A)



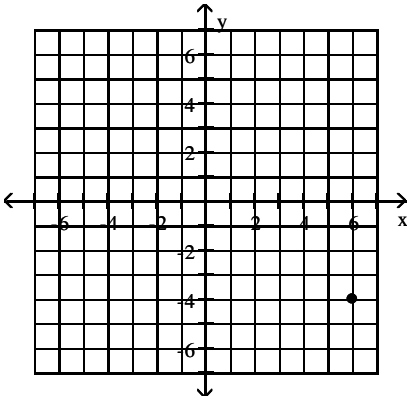
B)



C)



D)



Interpret the linear equation.

124) When a tow truck is called, the cost of the service is given by the linear function $y = 3x + 40$, where y is in dollars and x is the number of miles the car is towed. Find and interpret the slope and y–intercept of the linear equation. 124) _____

A) m = 3; The number of miles the car is towed increases 3 miles for every dollar spent on the service. b = 40; The tow truck will tow the car 40 miles for no cost.

B) m = 40; The number of miles the car is towed increases 40 miles for every dollar spent on the service. b = 3; The tow truck will tow the car 3 miles for no cost.

C) m = 40; The cost of the service increases $40 every mile the car is towed. b = 3; The cost of the service is $3 if the car is not towed.

D) m = 3; The cost of the service increases $3 every mile the car is towed. b = 40; The cost of the service is $40 if the car is not towed.

125) The altitude above sea level of an airplane just after taking off from an airport on a high plateau is given by the linear function y = 1000x + 3219, where y is in feet and x is the time in minutes since take–off. Find and interpret the slope and y–intercept. 125) _____

A) m = 3219; The altitude of the airplane increases 3219 feet every minute. b = 3219; The altitude of the airport where the airplane took–off is 1000 feet above sea level.

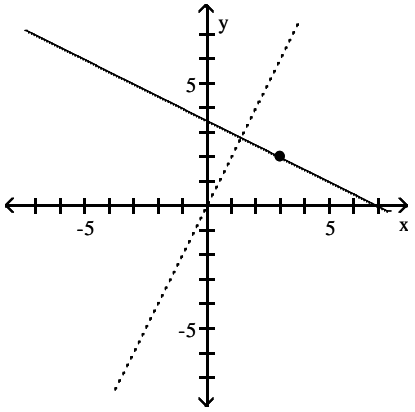
B) m = 1000; The altitude of the airplane increases 1000 feet every minute. b = 3219; The altitude of the airport where the airplane took–off is 3219 feet above sea level.

C) m = 3219; The minutes since take–off increases 3219 for every foot of altitude. b = 1000; The minutes that the plane takes to get to the altitude of the airport from sea level.

D) m = 1000; The minutes since take–off increases 1000 for every foot of altitude. b = 3219; The minutes that the plane takes to get to the altitude of the airport from sea level.

Find an equation for the line with the given properties.

126) The solid line L contains the point (3, 2) and is perpendicular to the dotted line whose equation is y = 2x. Give the equation of line L in slope–intercept form. 126) _____



A) $y = -\frac{1}{2}x + \frac{7}{2}$

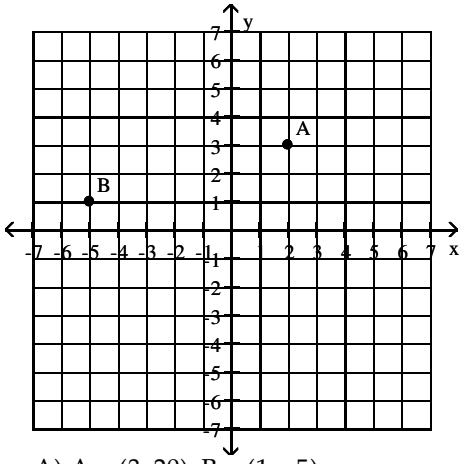
B) $y - 2 = 2(x - 3)$

C) $y = \frac{1}{2}x + \frac{7}{2}$

D) $y - 2 = -\frac{1}{2}(x - 3)$

Give the ordered pairs that correspond to the points labeled in the figure.

127) 127) _____



A) A = (3, 20), B = (1, –5)

B) A = (2, 3), B = (1, –5)

C) A = (2, 3), B = (–5, 1)

D) A = (2, 1), B = (3, 1)

Answer Key
Testname: M830E2PRAC_SCRAMBLED

1) C
2) A
3) A
4) B
5) B
6) C
7) C
8) B
9) A
10) B
11) D
12) A
13) B
14) A
15) B
16) C
17) A
18) A
19) B
20) B
21) A
22) A
23) C
24) D
25) C
26) C
27) D
28) A
29) D
30) C
31) D
32) A
33) A
34) B
35) B
36) D
37) D
38) D
39) B
40) A
41) C
42) A
43) B
44) C
45) B
46) B
47) A
48) B
49) C
50) C

51) C
52) D
53) D
54) B
55) C
56) D
57) C
58) B
59) B
60) A
61) C
62) B
63) D
64) A
65) C
66) C
67) C
68) B
69) D
70) B
71) A
72) A
73) C
74) D
75) B
76) D
77) C
78) D
79) C
80) C
81) C
82) A
83) A
84) B
85) C
86) C
87) C
88) A
89) D
90) A
91) D
92) D
93) D
94) D
95) C
96) C
97) C
98) B
99) D
100) C

Answer Key
Testname: M830E2PRAC_SCRAMBLED

101) B
102) D
103) A
104) C
105) A
106) D
107) B
108) D
109) C
110) B
111) B
112) B
113) A
114) C
115) B
116) C
117) B
118) A
119) A
120) D
121) D
122) A
123) C
124) D
125) B
126) A
127) C