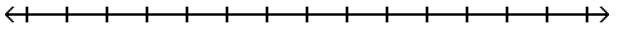
Exam

Name_____

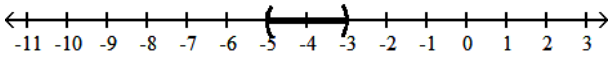
MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Solve the inequality and graph. Express your answer in interval notation.

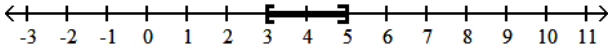
1) $-13 \le -3x + 2 \le -7$ 1) _____



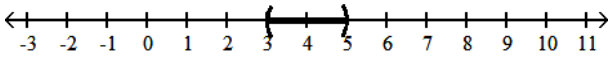
A) (-5, -3)



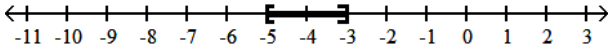
B) [3, 5]



C) (3, 5)



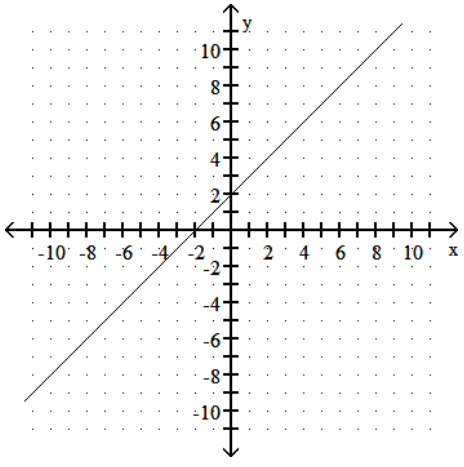
D) [-5, -3]



Answer: B
Explanation: A)
B)
C)
D)

Determine whether the slope of the line is positive, negative, zero, or undefined.

2) 2) _____

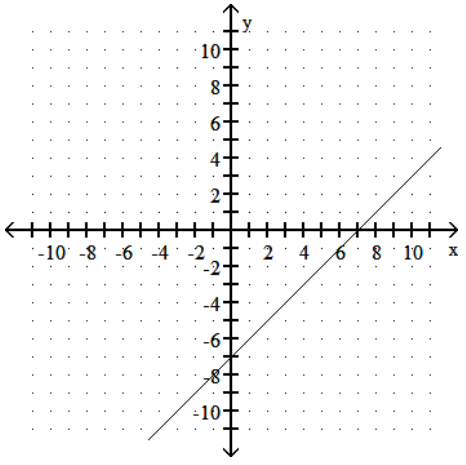


A) negative B) undefined C) positive D) zero

Answer: C
Explanation: A)
B)
C)
D)

Provide an appropriate response.

3) Use the graph to find the slope, x-intercept and y-intercept of the line. 3) _____



A) slope = -1
x-intercept = (7, 0)
y-intercept = (0, -7)

B) slope = 1
x-intercept = (7, 0)
y-intercept = (0, -7)

C) slope = - 1
x-intercept = (-7, 0)
y-intercept = (0, 7)

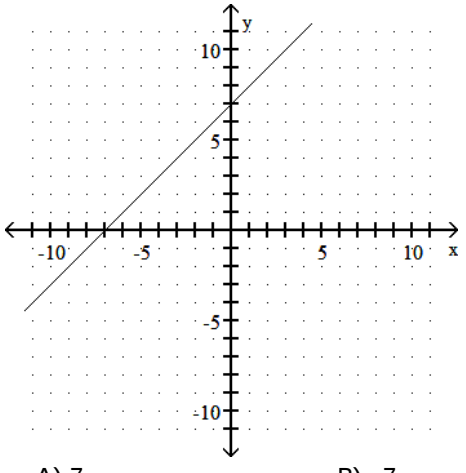
D) slope = 1
x-intercept = (0, 7)
y-intercept = (-7, 0)

Answer: B

Explanation: A)
B)
C)
D)

Use the graph to find the average rate of change.

4) 4) _____



A) 7 B) -7 C) -1 D) 1

Answer: D

Explanation: A)
B)
C)
D)

Find the slope and y intercept of the graph of the equation.

5) $y = \frac{5}{2}x - \frac{3}{2}$ 5) _____

A) Slope = $-\frac{3}{2}$; y intercept = $\frac{5}{2}$

B) Slope = $\frac{3}{2}$; y intercept = $\frac{5}{2}$

C) Slope = $\frac{5}{2}$; y intercept = $-\frac{3}{2}$

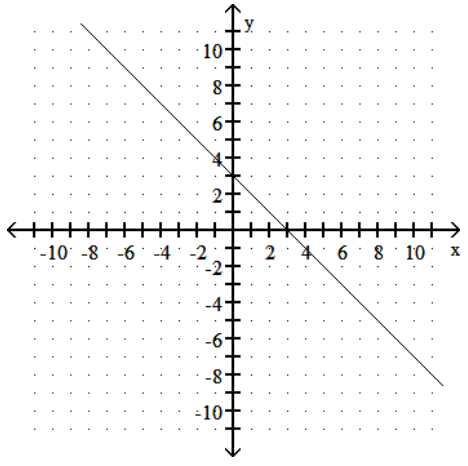
D) Slope = $\frac{5}{2}$; y intercept = $\frac{3}{2}$

Answer: C

Explanation: A)
B)
C)
D)

Determine whether the slope of the line is positive, negative, zero, or undefined.

6) 6) _____



A) positive B) negative C) zero D) undefined

Answer: B

Explanation: A)
B)
C)
D)

Provide an appropriate response.

7) Write the equation of a line that passes through (-1, 4) and (5, -1). Write the final answer in the form Ax + By = C where A, B, and C are integers with no common divisors (other than ±1) and A > 0. 7) _____

A) 5x - 6y = 19 B) -5x + 6y = 19 C) 5x + 6y = -19 D) 5x + 6y = 19

Answer: D

Explanation: A)
B)
C)
D)

Solve the problem.

8) Assume that the price per unit d of a certain item to the consumer is given by the equation $d = 35 - .10x$, where x is the number of units in demand. The price per unit from the supplier is given by the equation $s = .2x + 20$, where x is the number of units supplied. Find the equilibrium price and the equilibrium quantity. 8) _____

A) equilibrium price: $30 per unit; equilibrium quantity: 50 units
B) equilibrium price: $20 per unit; equilibrium quantity: 50 units
C) equilibrium price: $50 per unit; equilibrium quantity: 30 units
D) equilibrium price: $35 per unit; equilibrium quantity: 50 units

Answer: A
Explanation: A)
B)
C)
D)

Write the slope-intercept equation ($y = mx + b$) for a line with the given characteristics.

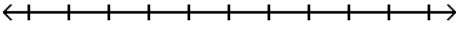
9) $m = -4$, y-intercept $(0, -7)$ 9) _____

A) $y = -7x - 4$ B) $y = -4x$ C) $y = -4x - 7$ D) $4x + y = -7$

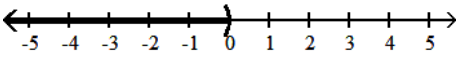
Answer: C
Explanation: A)
B)
C)
D)

Solve the inequality and graph. Express your answer in interval notation.

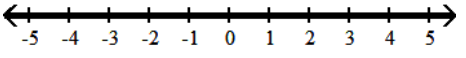
10) $-4(-2 - x) < 6x + 19 - 11 - 2x$ 10) _____



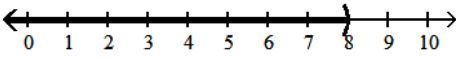
A) $(-\infty, 0)$



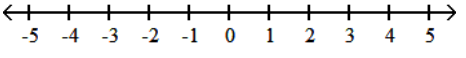
B) $(-\infty, \infty)$



C) $(-\infty, 8)$



D) $\emptyset$



Answer: D
Explanation: A)
B)
C)
D)

Find the slope and y intercept of the graph of the equation.

11) $y = -2x + 4$ 11) _____

A) Slope = 4, y intercept = -2
B) Slope = 2, y intercept = -4
C) Slope = -2, y intercept = 4
D) Slope = -4, y intercept = -2

Answer: C
Explanation: A)
B)
C)
D)

Write an equation of the line with the indicated slope and y intercept.

12) Slope = $-\frac{4}{5}$; y intercept = $\frac{27}{5}$ 12) _____

A) $y = \frac{4}{5}x + \frac{17}{5}$ B) $y = -\frac{5}{4}x + \frac{27}{5}$ C) $y = -\frac{4}{5}x + \frac{27}{5}$ D) $y = -\frac{4}{5}x - \frac{27}{5}$

Answer: C
Explanation: A)
B)
C)
D)

Use the REGRESSION feature on a graphing calculator.

13) For some reason the quality of production decreased as the year progressed at a flash drive manufacturing plant. The following data represent the percentage of defective flash drives produced at the plant in the corresponding month of the year. 13) _____

Month, x	2	3	5	7	8	9	12
% defective, y	1.3	1.6	2.0	2.4	2.6	2.8	3.1

Use the regression equation with values rounded to four decimals to predict the percentage of defective drives in month 6, June.

A) 2.20% B) 2.3% C) 2.0% D) 2.15%

Answer: D
Explanation: A)
B)
C)
D)

Solve the problem. Express your answer as an integer or simplified fraction.

14) $-2(2x + 1) - 1 = -5(x + 1) + 4x$ 14) _____

A) $\left\{\frac{2}{5}\right\}$ B) $\left\{\frac{2}{3}\right\}$ C) $\left\{\frac{5}{3}\right\}$ D) $\left\{-\frac{1}{3}\right\}$

Answer: B
Explanation: A)
B)
C)
D)

Use the REGRESSION feature on a graphing calculator.

15) Efficiency experts rate employees according to job performance and attitude. The results for several randomly selected employees are given below. 15) _____

Attitude, x	59	63	65	69	58	77	76	69	70	64
Performance, y	72	67	78	82	75	87	92	83	87	78

Find the regression line which can be used to predict performance rating if attitude rating is known.

A) $y = -47.3 + 2.02x$ B) $y = 2.81 + 1.35x$

C) $y = 92.3 - 0.669x$ D) $y = 11.7 + 1.02x$

Answer: D

Explanation: A)
B)
C)
D)

Write an equation of the line with the indicated slope and y intercept.

16) Slope = $-\frac{1}{2}$; y intercept = -5 16) _____

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

Answer: A

Explanation: A)
B)
C)
D)

Solve the problem. Express your answer as an integer or simplified fraction.

17) $\frac{x}{16} - \frac{5}{8} = \frac{x+6}{8}$ 17) _____

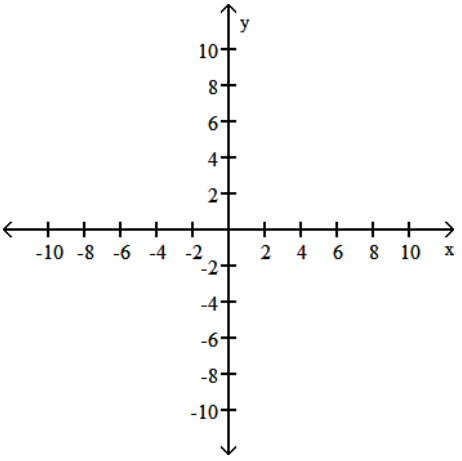
A) - 11 B) - 16 C) - 22 D) - 17

Answer: C

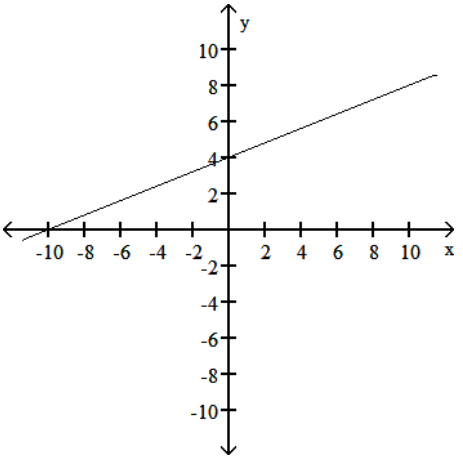
Explanation: A)
B)
C)
D)

Graph the linear equation and determine its slope, if it exists.

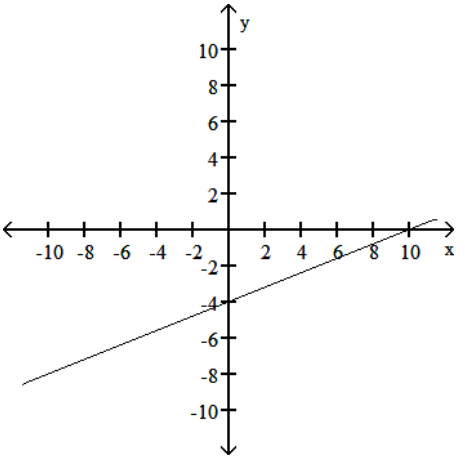
18) $2x - 5y = 20$ 18) _____



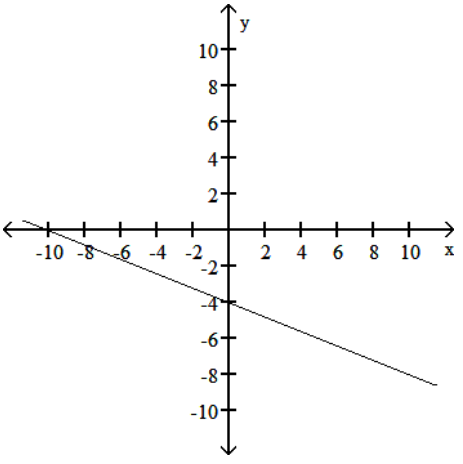
A) slope = $\frac{2}{5}$



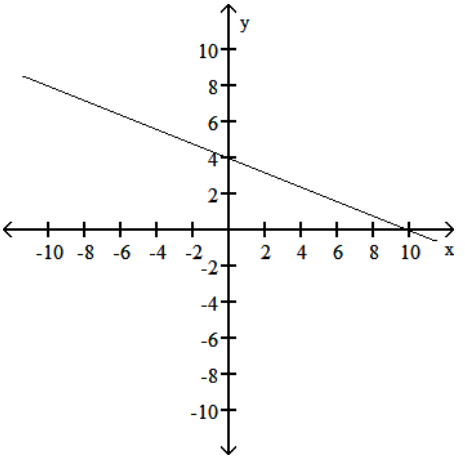
B) slope = $\frac{2}{5}$



C) slope = $-\frac{2}{5}$



D) slope = $-\frac{2}{5}$



Answer: B

Explanation: A)

B)

C)

D)

Find the slope and y intercept of the graph of the equation.

19) $y = x - 4$ 19) _____

A) Slope = 0; y intercept = 4
B) Slope = 1; y intercept = -4
C) Slope = -4; y intercept = -1
D) Slope = -4; y intercept = 1

Answer: B

Explanation: A)
B)
C)
D)

Solve the problem.

20) The mathematical model $C = 600x + 30{,}000$ represents the cost in dollars a company has in manufacturing x items during a month. Using this model, how much does it cost to produce 600 items? 20) _____

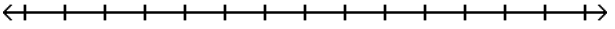
A) $360,000 B) $390,000 C) $50.00 D) $0.08

Answer: B

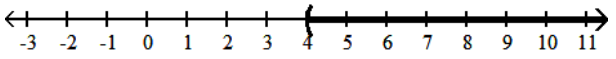
Explanation: A)
B)
C)
D)

Solve the inequality and graph. Express your answer in interval notation.

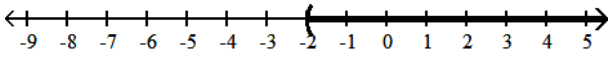
21) $8x - 3 > 7x + 1$ 21) _____



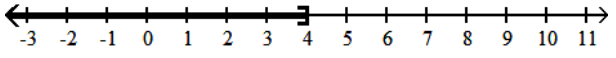
A) $(4, \infty)$



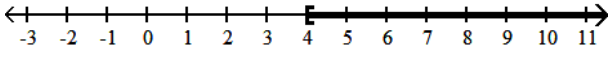
B) $(-2, \infty)$



C) $(-\infty, 4]$



D) $[4, \infty)$



Answer: A

Explanation: A)
B)
C)
D)

Solve the problem. Express your answer as an integer or simplified fraction.

22) $\frac{1}{9}(x + 18) - \frac{1}{7}(x - 7) = x - 9$ 22) _____

A) $\left\{\frac{378}{65}\right\}$ B) $\left\{\frac{126}{13}\right\}$ C) $\left\{\frac{504}{65}\right\}$ D) $\left\{\frac{756}{65}\right\}$

Answer: D

Explanation: A)
B)
C)
D)

Find the slope of the line containing the given points.

23) (1, -4); (-4, 8) 23) _____

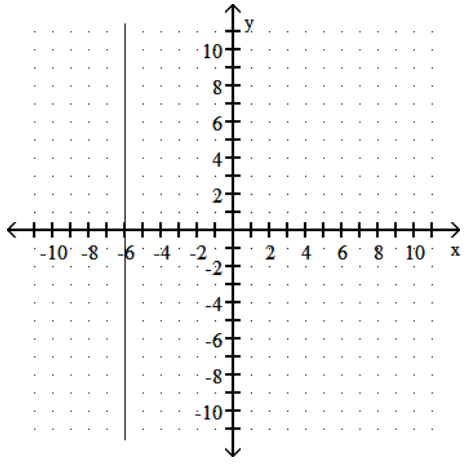
A) $\frac{12}{5}$ B) $\frac{5}{12}$ C) $-\frac{5}{12}$ D) $-\frac{12}{5}$

Answer: D

Explanation: A)
B)
C)
D)

Determine whether the slope of the line is positive, negative, zero, or undefined.

24) 24) _____

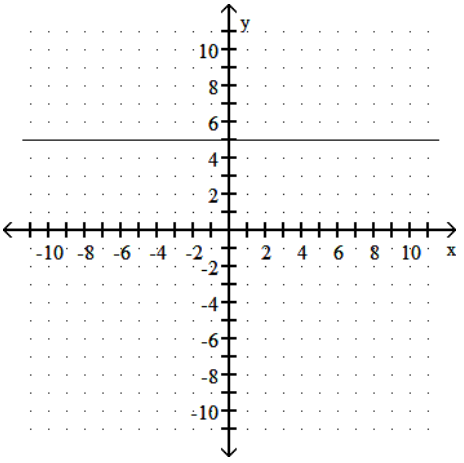


A) zero B) undefined C) negative D) positive

Answer: B

Explanation: A)
B)
C)
D)

25) 25) _____



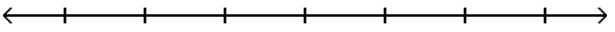
A) zero B) undefined C) positive D) negative

Answer: A

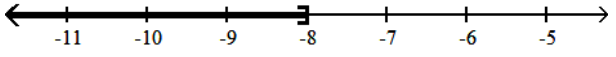
Explanation: A)
B)
C)
D)

Solve the inequality and graph. Express your answer in interval notation.

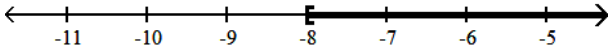
26) $-2(5x - 17) < -12x + 18$ 26) _____



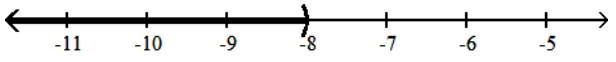
A) $(-\infty, -8]$



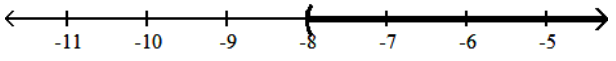
B) $[-8, \infty)$



C) $(-\infty, -8)$



D) $(-8, \infty)$



Answer: C

Explanation: A)
B)
C)
D)

Solve the formula for the specified variable.

27) $7x + 10y = 19$ for y 27) _____

A) $y = \frac{7}{10}x + \frac{19}{10}$

B) $y = -\frac{7}{10}x + \frac{19}{10}$

C) $-7x - 10y = -19$

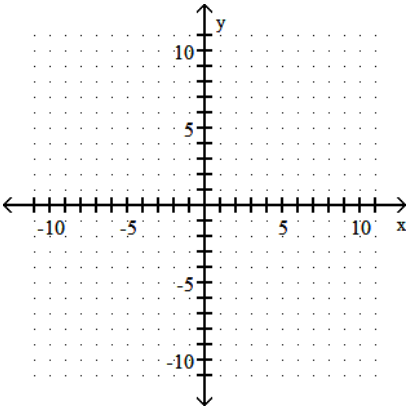
D) $y = 7x - 19$

Answer: B

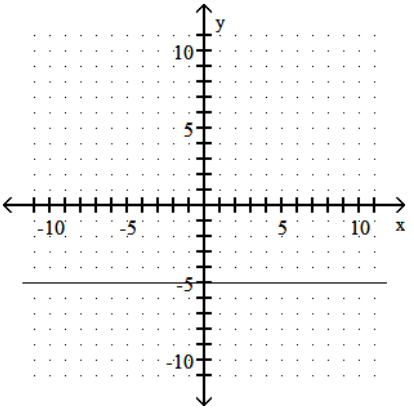
Explanation: A)
B)
C)
D)

Graph the equation.

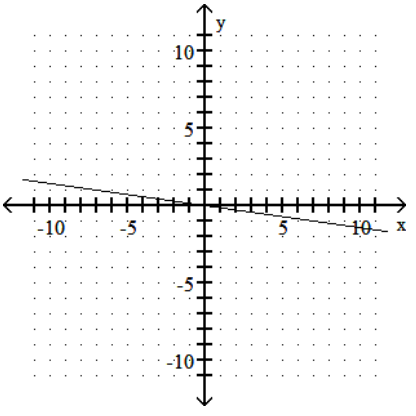
28) $35 + 5y = 0$ 28) _____



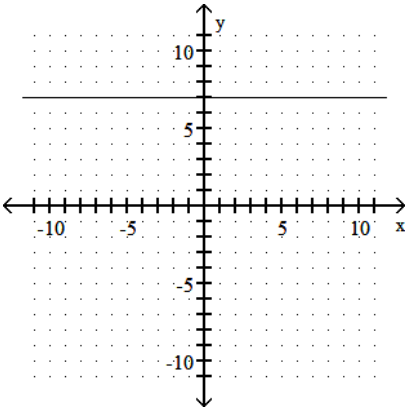
A)



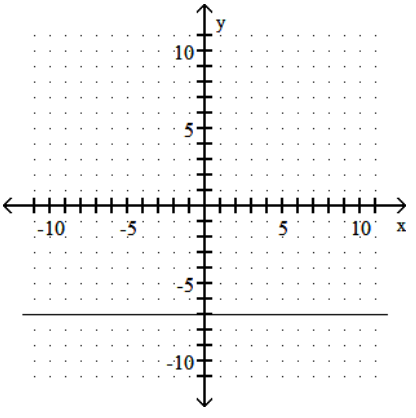
B)



C)



D)



Answer: D

Explanation: A)

Explanation: A)
B)
C)
D)

Solve the formula for the specified variable.

29) $S = 2\pi rh + 2\pi r^2$ for h 29) _____

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

Answer: D
Explanation: A)
B)
C)
D)

Solve the problem.

30) The cost of manufacturing a computer part is related to the quantity produced, x, during a production run. When 100 parts are produced, the cost is $300. When 600 parts are produced, the cost is $4800. Find an equation of the line relating quantity produced to cost. Write the final answer in the form C = mx + b. 30) _____

A) C = 9x B) C = 9x - 600 C) C = 600x + 9 D) C = 9x + 600

Answer: B
Explanation: A)
B)
C)
D)

Write an equation of the line with the indicated slope and y intercept.

31) Slope = 4, y intercept = -6 31) _____

A) y = -4x - 6 B) y = 6x - 4 C) y = 6x + 4 D) y = 4x - 6

Answer: D
Explanation: A)
B)
C)
D)

Solve the problem. Express your answer as an integer or simplified fraction.

32) Solve: $\frac{x - 2}{3} - \frac{x - 3}{6} = \frac{3 - x}{2} - 3$ 32) _____

A) 2 B) - 3 C) - 2 D) 3

Answer: C
Explanation: A)
B)
C)
D)

Provide an appropriate response.

33) Find the line passing through the two points. Write the equation in standard form. 33) _____
(10, 9) and (10, 1)

A) x + y = 11 B) x + y = 19 C) y = 9 D) x = 10

Answer: D

Explanation: A)
B)
C)
D)

Solve the problem.

34) Using a phone card to make a long distance call costs a flat fee of $0.85 plus per $0.19 minute 34) _____
starting with the first minute. Find the total cost of a phone call which lasts 8 minutes.

A) $1.52 B) $6.00 C) $2.37 D) $8.16

Answer: C

Explanation: A)
B)
C)
D)

35) Suppose the sales of a particular brand of MP3 player satisfy the relationship S = 200x + 3800, 35) _____
where S represents the number of sales in year x, with x = 0 corresponding to 2002 . Find the number of sales in 2005.

A) 12,600 B) 4200 C) 6400 D) 4400

Answer: D

Explanation: A)
B)
C)
D)

36) A piece of equipment was purchased by a company for $10,000 and is assumed to have a salvage 36) _____
value of $3,000 in 10 years. If its value is depreciated linearly from $10,000 to $3,000, find a linear equation in the form V = mt + b, t time in years, that will give the salvage value at any time t, $0 \le t \le 10$.

A) V = - 700t - 10,000 B) V = - 700t + 10,000
C) V = 700t + 10,000 D) T = - 700V + 10,000

Answer: B

Explanation: A)
B)
C)
D)

37) The cost for labor associated with fixing a washing machine is computed as follows: There is a fixed charge of $25 for the repairman to come to the house, to which a charge of $20 per hour is added. Find an equation that can be used to determine the labor cost, C, of a repair that takes x hours. Write the final answer in the form C = mx + b. 37) _____

A) C = 45x B) C = 20x + 25 C) C = -20x + 25 D) C = 25x + 20

Answer: B

Explanation: A)
B)
C)
D)

38) Find the Celsius temperature (to the nearest degree) when Fahrenheit temperature is 68° by solving the equation $68 = \frac{9}{5}C + 32$, where F is the Fahrenheit temperature (in degrees) and C is the Celsius temperature. 38) _____

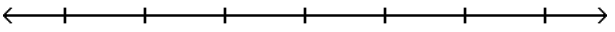
A) 34°c B) 129°c C) 20°c D) 154°c

Answer: C

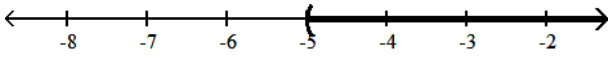
Explanation: A)
B)
C)
D)

Solve the inequality and graph. Express your answer in interval notation.

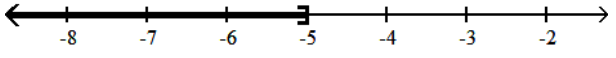
39) 16x - 4 > 4(3x - 6) 39) _____



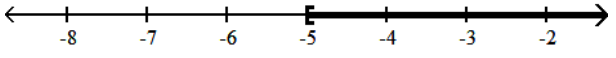
A) (-5, ∞)



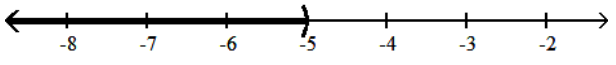
B) (-∞, -5]



C) [-5, ∞)



D) (-∞, -5)

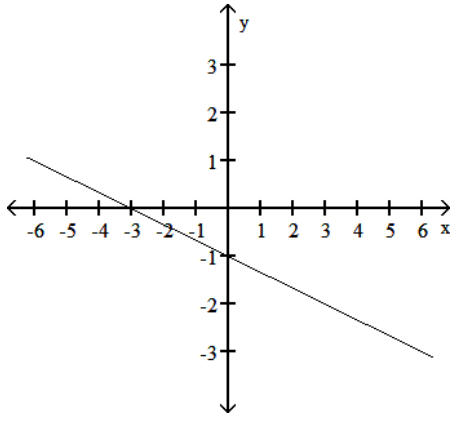


Answer: A

Explanation: A)
B)
C)
D)

Provide an appropriate response.

40) Write the equation of the line in the following graph. 40) _____



A) $f(x) = -\frac{1}{3}x - 1$ B) $f(x) = -\frac{1}{3}x + 1$ C) $f(x) = \frac{1}{3}x + 1$ D) $f(x) = \frac{1}{3}x - 1$

Answer: A

Explanation: A)
B)
C)
D)

Solve the problem. Express your answer as an integer or simplified fraction.

41) $7x - (5x - 1) = 2$ 41) _____

A) $\frac{1}{2}$ B) $-\frac{1}{2}$ C) $\frac{1}{12}$ D) $-\frac{1}{12}$

Answer: A

Explanation: A)
B)
C)
D)

Find the slope and y intercept of the graph of the equation.

42) $y = -\frac{x}{2} + 4$ 42) _____

A) Slope = $-\frac{1}{2}$; y intercept = -4 B) Slope = $-\frac{1}{2}$; y intercept = 4

C) Slope = 4; y intercept = $-\frac{1}{2}$ D) Slope = 4; y intercept = $\frac{1}{2}$

Answer: B

Explanation: A)
B)
C)
D)

Provide an appropriate response.

43) Find the slope of the line $3x + 4y = 11$. 43) _____

A) 0 B) $\frac{3}{4}$ C) $-\frac{3}{4}$ D) $-\frac{4}{3}$

Answer: C

Explanation: A)
B)
C)
D)

Find the slope of the line containing the given points.

44) (6, 1) and (6, - 4) 44) _____

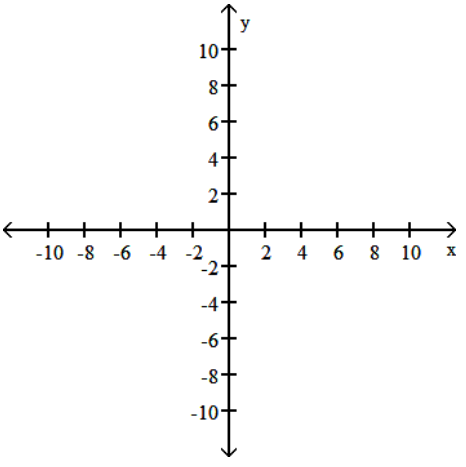
A) - 4 B) $-\frac{1}{4}$ C) 0 D) Undefined

Answer: D

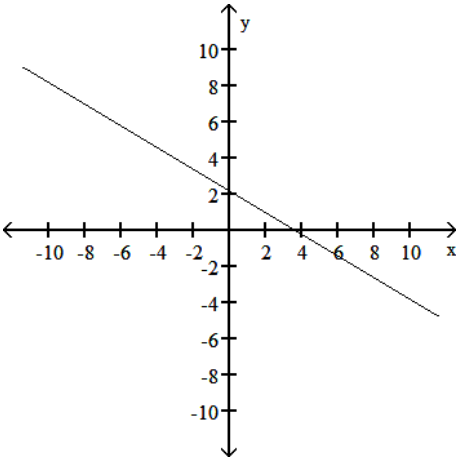
Explanation: A)
B)
C)
D)

Graph the linear equation and determine its slope, if it exists.

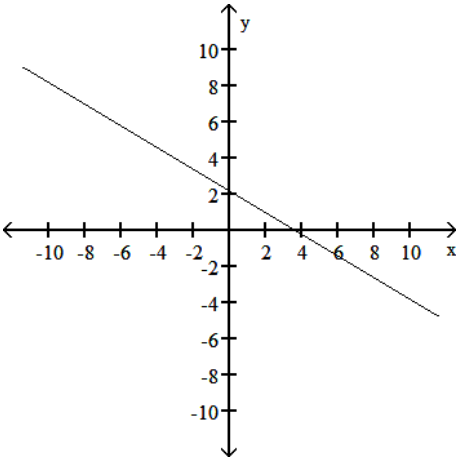
45) $3x + 5y = 11$ 45) _____



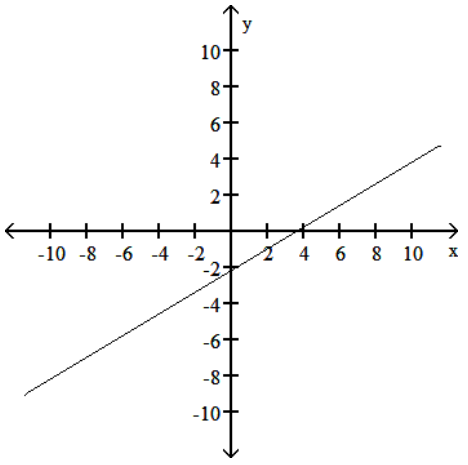
A) slope: $\frac{3}{4}$



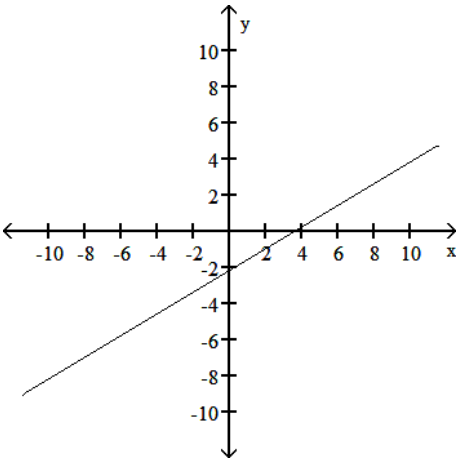
B) slope: $-\frac{3}{4}$



C) slope: $-\frac{3}{4}$



D) slope: $\frac{3}{4}$

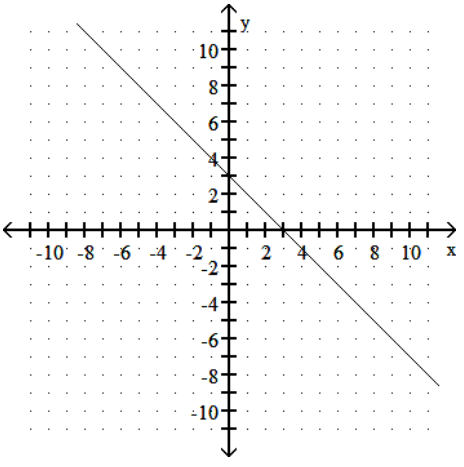


Answer: B

Explanation: A)
B)
C)
D)

Provide an appropriate response.

46) Use the graph to find the slope-intercept form of the equation of the line. 46) _____



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

Answer: A

Explanation: A)
B)
C)
D)

Write an equation of the line with the indicated slope and y intercept.

47) Slope = $\frac{5}{2}$; y intercept = $-\frac{7}{2}$ 47) _____

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

Answer: B
Explanation: A)
B)
C)
D)

Provide an appropriate response.

48) Find the standard form of the equation of the line with slope of $-\frac{2}{7}$ and passing through (4, 4). 48) _____

A) $2x + 7y = -36$ B) $7x + 2y = -36$ C) $2x + 7y = 36$ D) $2x - 7y = 36$

Answer: C
Explanation: A)
B)
C)
D)

Solve the problem. Express your answer as an integer or simplified fraction.

49) $\frac{x}{6} - 4 = \frac{x}{3} - 3$ 49) _____

A) 14 B) - 6 C) - 2 D) - 14

Answer: B
Explanation: A)
B)
C)
D)

Write the slope-intercept equation (y = mx + b) for a line with the given characteristics.

50) m = 3, passing through (1, -2) 50) _____

A) y = 3x - 5 B) y - 5 = 3x C) y = 3x D) y = 5x - 3

Answer: A
Explanation: A)
B)
C)
D)

Use the REGRESSION feature on a graphing calculator.

51) In the table below, x represents the number of years since 2000 and y represents sales (in thousands of dollars) of a clothing company. Use the regression equation to estimate sales in the year 2006. Round to the nearest thousand dollars. 51) _____

Year x	1	2	3	4	5
Sales y	84	76	39	30	26

A) $20,000 B) $2,000 C) $14,000 D) $8,000

Answer: B

Explanation: A)
B)
C)
D)

52) A study was conducted to compare the average time spent in the lab each week versus course grade for computer students. The results are recorded in the table below. 52) _____

Hours in lab	10	11	16	9	7	15	16	10
Grade (percent)	96	51	62	58	89	81	46	51

Use linear regression to find a linear function that predicts a student's course grade as a function of the number of hours spent in lab.

A) y = 1.86 + 88.6x B) y = 0.930 + 44.3x
C) y = 88.6 - 1.86x D) y = 44.3 + 0.930x

Answer: C

Explanation: A)
B)
C)
D)

Write an equation of the line with the indicated slope and y intercept.

53) Slope = -3, y intercept = 5 53) _____

A) y = -3x + 5 B) y = 5x - 3 C) y = -3x - 5 D) y = 3x + 5

Answer: A

Explanation: A)
B)
C)
D)

Solve the problem.

54) A small company that makes hand-sewn leather shoes has fixed costs of $320 a day, and total costs of $1200 per day at an output of 20 pairs of shoes per day. Assume that total cost C is linearly related to output x. Find an equation of the line relating output to cost. Write the final answer in the form C = mx + b. 54) _____

A) C = 60x + 1520 B) C = 60x + 320 C) C = 44x + 320 D) C = 44x + 1520

Answer: C

Explanation: A)
B)
C)
D)

55) You have $50,000 and wish to invest part at 10% and the rest at 6%. How much should be invested at each rate to produce the same return as if it all had been invested at 9%? 55) _____

A) $37,500 at 6%, $12,500 at 10%
B) $37,000 at 6%, $13,000 at 10%
C) $37,000 at 10%, $13,000 at 6%
D) $37,500 at 10%, $12,500 at 6%

Answer: D
Explanation: A)
B)
C)
D)

56) At a local grocery store the demand for ground beef is approximately 50 pounds per week when the price per pound is $4, but is only 40 pounds per week when the price rises to $5.50 per pound. Assuming a linear relationship between the demand x and the price per pound p, express the price as a function of demand. Use this model to predict the demand if the price rises to $5.80 per pound. 56) _____

A) p = 0.15x + 11.5; 38 pounds
B) p = 11.5x + -0.15; 40 pounds
C) p = - 0.15x + 11.5; 38 pounds
D) p = - 0.15x - 11.5; 40 pounds

Answer: C
Explanation: A)
B)
C)
D)

Provide an appropriate response.

57) Find the standard form of the equation of the line passing through the two points. 57) _____
(2, - 6) and (- 9, 6)

A) 12x + 11y = - 42
B) 8x - 15y = - 18
C) - 12x + 11y = - 42
D) - 8x + 15y = - 18

Answer: A
Explanation: A)
B)
C)
D)

58) Given two points (x_1, y_1) and (x_2, y_2), the ratio of the change in y to the change in x is called. 58) _____

A) x-intercept
B) equilibrium point
C) slope
D) break-even point

Answer: C
Explanation: A)
B)
C)
D)

Use the REGRESSION feature on a graphing calculator.

59) The paired data below consists of the temperature on randomly chosen days and the amount of a certain kind of plant grew (in millimeters). 59) _____

Temp, x	62	76	50	51	71	46	51	44	79
Growth, y	36	39	50	13	33	33	17	6	16

Find the linear function that predicts a plant's growth as a function of the temperature. Round your answer to two decimal places.

A) $y = 14..57x + 0.21$ B) $y = -9.19x^3 + 0.11x^2 - 2.90x + 6.54$

C) $y = -0.06x^2 + 7.20x - 191.23$ D) $y = 0.21x + 14.57$

Answer: D

Explanation: A)
B)
C)
D)

Solve the formula for the specified variable.

60) $F = \frac{9}{5}C + 32$ for C 60) _____

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

Answer: D

Explanation: A)
B)
C)
D)

61) Solve: $D = \frac{4}{5}(mx - mb)$ for m 61) _____

A) $m = \frac{4D}{5(x - b)}$ B) $m = \frac{4D}{5(x + b)}$ C) $m = \frac{5D}{4(x + b)}$ D) $m = \frac{5D}{4(x - b)}$

Answer: D

Explanation: A)
B)
C)
D)

Find the slope of the line containing the given points.

62) (-5, 2) and (0, 2) 62) _____

A) $-\frac{5}{2}$ B) 0 C) $\frac{5}{2}$ D) Undefined

Answer: B

Explanation: A)
B)
C)
D)

Provide an appropriate response.

63) Write the equation of a line that passes through (3, 9) and (0, -7). Write the final answer in the form Ax + By = C where A, B, and C are integers with no common divisors (other than ±1) and A > 0. 63) _____

A) 16x - 3y = 21 B) 16x - 3y = -21 C) -16x + 3y = 21 D) 3x - 16y = 21

Answer: A

Explanation: A)
B)
C)
D)

Find the slope and y intercept of the graph of the equation.

64) $y = -\frac{2}{5}x + \frac{16}{5}$ 64) _____

A) Slope = $\frac{5}{2}$; y intercept = $\frac{6}{5}$ B) Slope = $\frac{2}{5}$; y intercept = $\frac{6}{5}$

C) Slope = $-\frac{2}{5}$; y intercept = $\frac{16}{5}$ D) Slope = $\frac{2}{5}$; y intercept = $\frac{16}{5}$

Answer: C

Explanation: A)
B)
C)
D)

Use the REGRESSION feature on a graphing calculator.

65) The use of bottled water in the United States has shown a steady increase in recent years. The table shows the annual per capita consumption for the years 1995 - 2001. 65) _____

Year	1995	1996	1997	1998	1999	2000	2001
Gallons/person	4.4	5.1	5.7	6.4	7.3	8.0	10.2

With x being the years since 1995, find the linear function that represents this data. Round your answer to two decimal places.

A) y = 4.07x + 0.89 B) y = 0.89x + 4.07

C) $y = 0.1x^2 + 0.29x + 4.57$ D) $y = 0.04x^3 - 0.23x^2 + 1.01x + 4.35$

Answer: B

Explanation: A)
B)
C)
D)

Solve the problem. Express your answer as an integer or simplified fraction.

66) $\frac{5x - 7}{5} = \frac{7x + 3}{2}$ 66) _____

A) $-\frac{1}{25}$ B) $-\frac{29}{25}$ C) $\frac{29}{45}$ D) $\frac{1}{45}$

Answer: B

Explanation: A)
B)
C)
D)

Provide an appropriate response.

67) Find the line passing through the two points. Write the equation in standard form. 67) _____

(-3, 6) and (6, 6)

A) x = -2 B) y = 6 C) -2x - y 0 D) -x - 2y = 0

Answer: B

Explanation: A)
B)
C)
D)

Find the slope and y intercept of the graph of the equation.

68) y = 2x - 6 68) _____

A) Slope = 6, y intercept = 2 B) Slope = 2, y intercept = -6

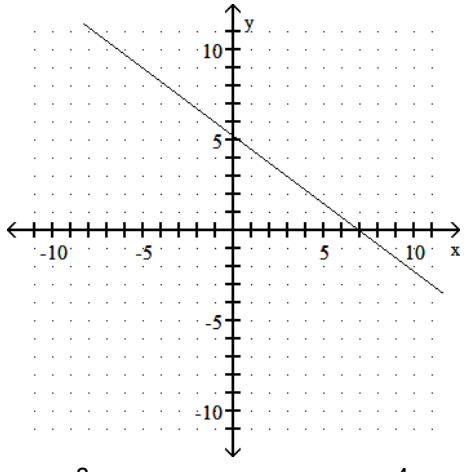
C) Slope = -6, y intercept = 2 D) Slope = 2, y intercept = 6

Answer: B

Explanation: A)
B)
C)
D)

Use the graph to find the average rate of change.

69) 69) _____



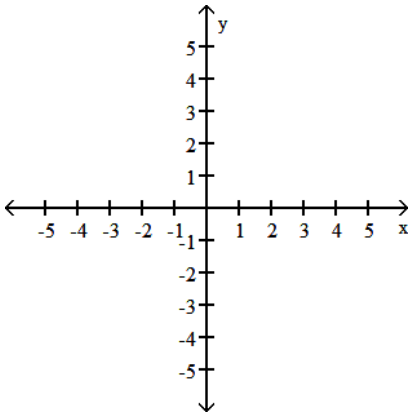
A) $\frac{3}{4}$ B) $-\frac{4}{3}$ C) $\frac{4}{3}$ D) $-\frac{3}{4}$

Answer: D

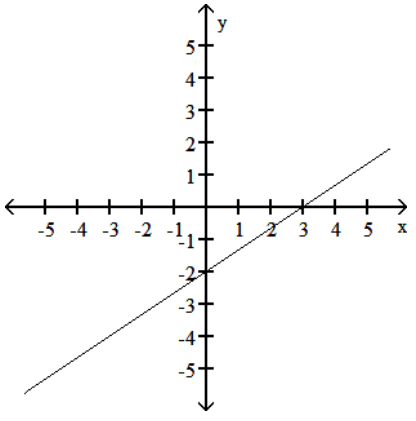
Explanation: A)
B)
C)
D)

Provide an appropriate response.

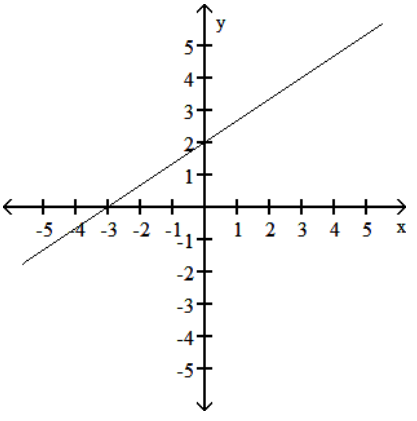
70) Graph the linear function defined by $f(x) = \frac{2}{3}x + 2$ and indicate the slope and intercepts. 70) _____



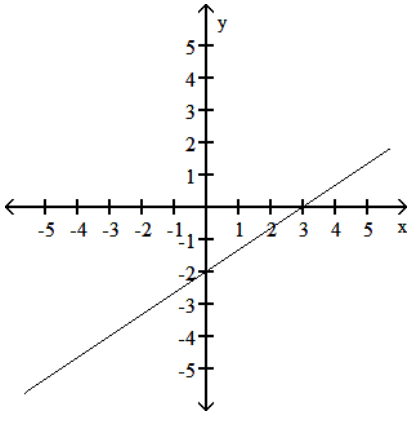
A) x-intercept = -2; y-intercept = 3; slope $\frac{2}{3}$



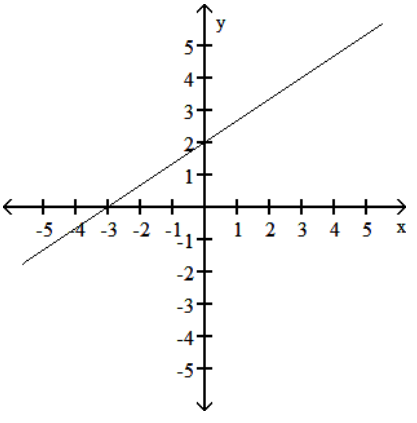
B) x-intercept = -3; y-intercept = 2; slope $\frac{2}{3}$



C) x-intercept = 3; y-intercept = -2; slope $\frac{2}{3}$



D) x-intercept = 2; y-intercept = -3; slope $\frac{2}{3}$



Answer: B

Explanation: A)

B)

C)

D)

Write an equation of the line with the indicated slope and y intercept.

71) Slope = 1; y intercept = -2 71) _____

A) y = -2x + 1 B) y = -2x - 1 C) y = x - 2 D) y = -x - 2

Answer: C

Explanation: A)

B)

C)

D)

Answer Key
Testname: C1

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

51) B
52) C
53) A
54) C
55) D
56) C
57) A
58) C
59) D
60) D
61) D
62) B
63) A
64) C
65) B
66) B
67) B
68) B
69) D
70) B
71) C