

Name \_\_\_\_\_

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

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

1)  $\frac{1}{5}(x + 15) - \frac{1}{6}(x - 6) = x - 5$

1) \_\_\_\_\_

A)  $\left\{\frac{90}{29}\right\}$

B)  $\left\{\frac{270}{29}\right\}$

C)  $\left\{\frac{30}{29}\right\}$

D)  $\left\{\frac{210}{29}\right\}$

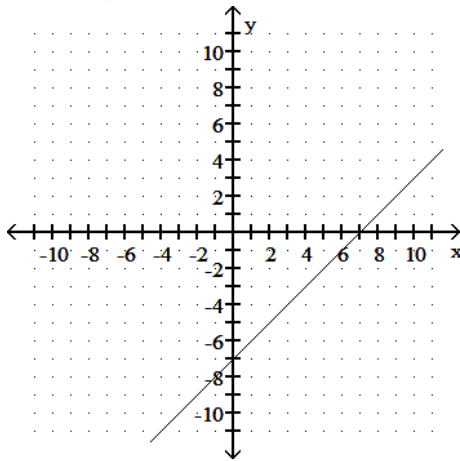
Answer: B

Diff: 0 Type: BI

Provide an appropriate response.

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

2) \_\_\_\_\_



A) slope = -1

x-intercept = (7, 0)

y-intercept = (0, -7)

C) slope = 1

x-intercept = (0, 7)

y-intercept = (-7, 0)

B) slope = 1

x-intercept = (7, 0)

y-intercept = (0, -7)

D) slope = -1

x-intercept = (-7, 0)

y-intercept = (0, 7)

Answer: B

Diff: 0 Type: BI

Find the slope of the line containing the given points.

3) (-5, 2) and (0, 2)

3) \_\_\_\_\_

A)  $-\frac{5}{2}$

B) 0

C)  $\frac{5}{2}$

D) Undefined

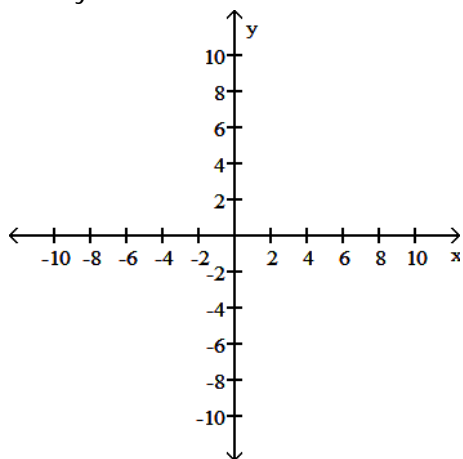
Answer: B

Diff: 0 Type: BI

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

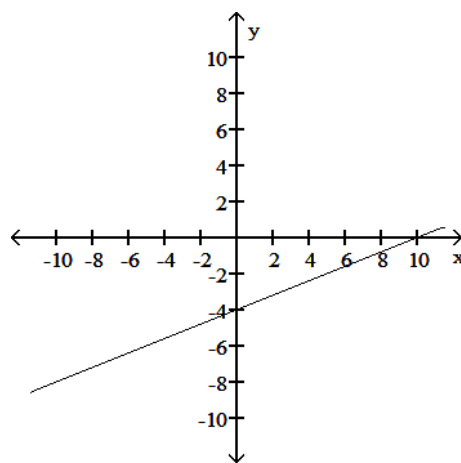
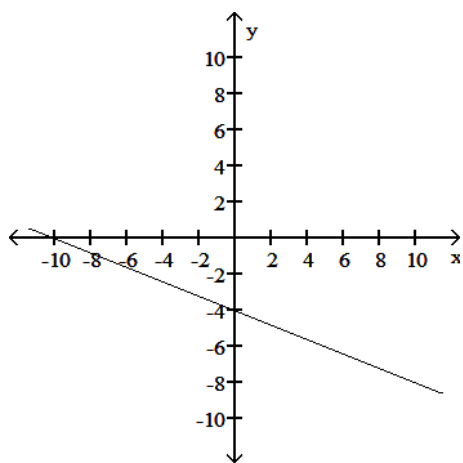
4)  $2x - 5y = 20$

4) \_\_\_\_\_



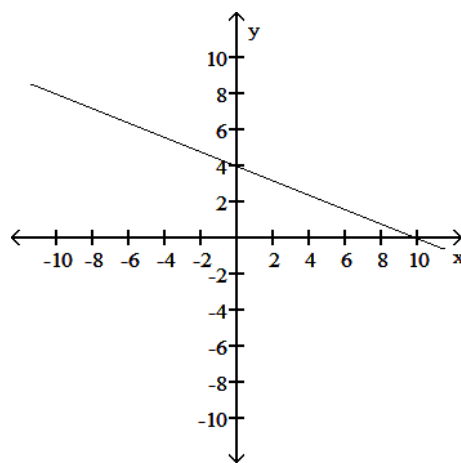
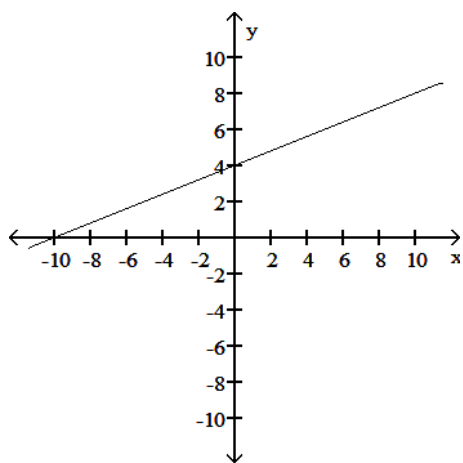
A) slope =  $-\frac{2}{5}$

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



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

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



Answer: B

Diff: 0 Type: BI

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

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

A)  $-\frac{1}{2}$

B)  $\frac{1}{12}$

C)  $-\frac{1}{12}$

D)  $\frac{1}{2}$

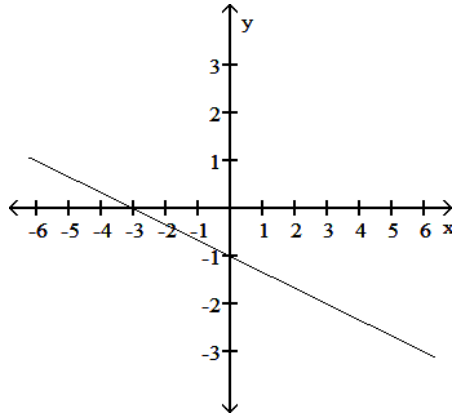
5) \_\_\_\_\_

Answer: D

Diff: 0 Type: BI

Provide an appropriate response.

6) Write the equation of the line in the following graph.



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)  $f(x) = \frac{1}{3}x - 1$

6) \_\_\_\_\_

Answer: A

Diff: 0 Type: BI

7) 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.

A) equilibrium point

B)  $x$ -intercept

C) slope

D) break-even point

7) \_\_\_\_\_

Answer: C

Diff: 0 Type: BI

Solve the problem.

8) 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  $C = mx + b$ .

A)  $C = 45x$

B)  $C = 25x + 20$

C)  $C = 20x + 25$

D)  $C = -20x + 25$

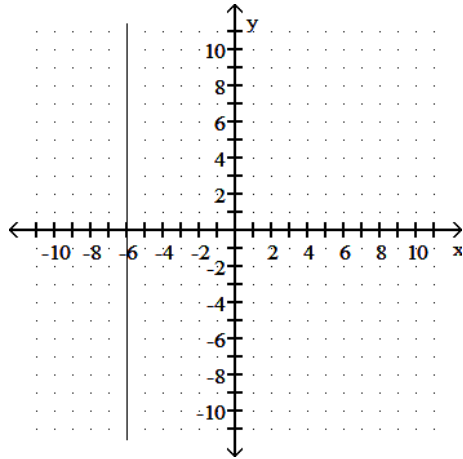
8) \_\_\_\_\_

Answer: C

Diff: 0 Type: BI

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

9)



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

Answer: D

Diff: 0    Type: BI

9) \_\_\_\_\_

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

10) Slope = -4, y intercept = 6

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

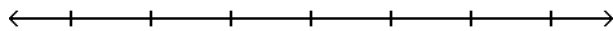
Answer: C

Diff: 0    Type: BI

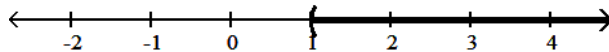
10) \_\_\_\_\_

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

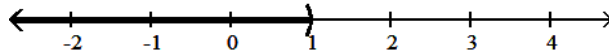
11)  $-3(3x + 6) < -12x - 15$



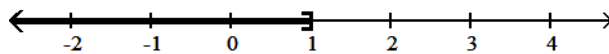
A)  $(1, \infty)$



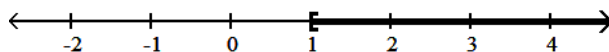
B)  $(-\infty, 1)$



C)  $(-\infty, 1]$



D)  $[1, \infty)$



Answer: B

Diff: 0    Type: BI

11) \_\_\_\_\_

Solve the problem.

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

12) \_\_\_\_\_

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

Answer: D

Diff: 0    Type: BI

Solve the formula for the specified variable.

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

13) \_\_\_\_\_

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

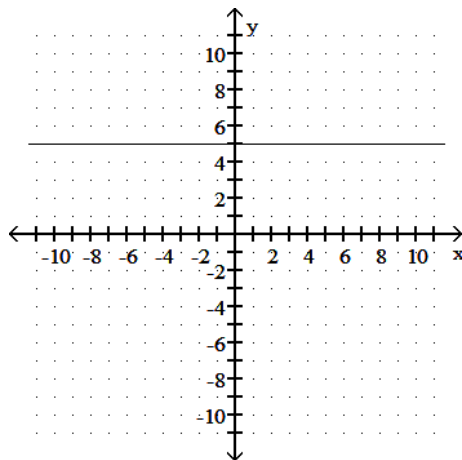
Answer: B

Diff: 0    Type: BI

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

14)

14) \_\_\_\_\_



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

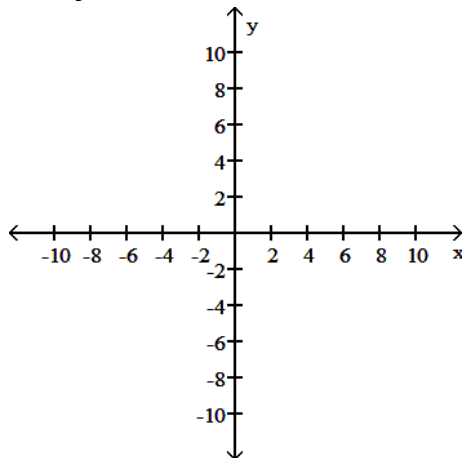
Answer: C

Diff: 0    Type: BI

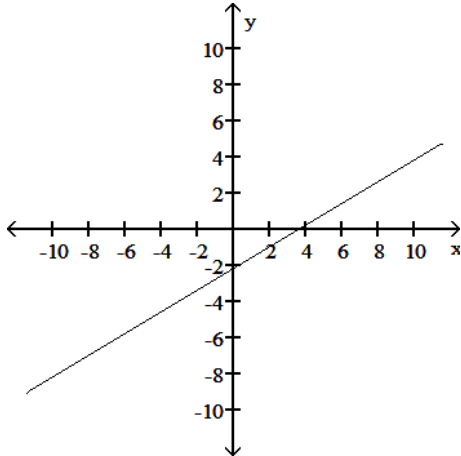
Graph the linear equation and determine its slope, if it exists.

15)  $3x + 5y = 11$

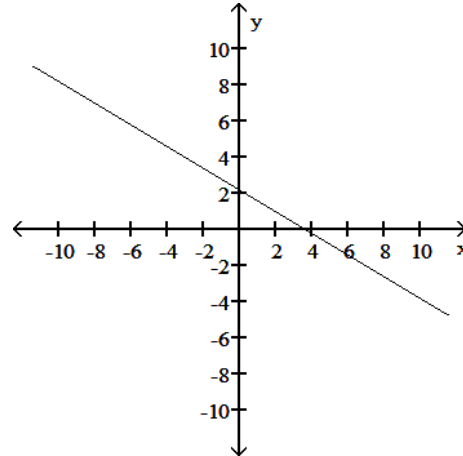
15) \_\_\_\_\_



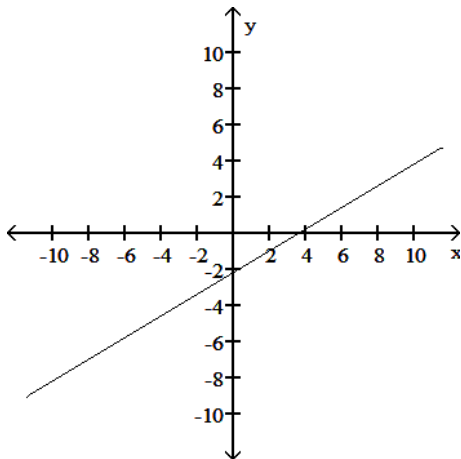
A) slope:  $\frac{3}{4}$



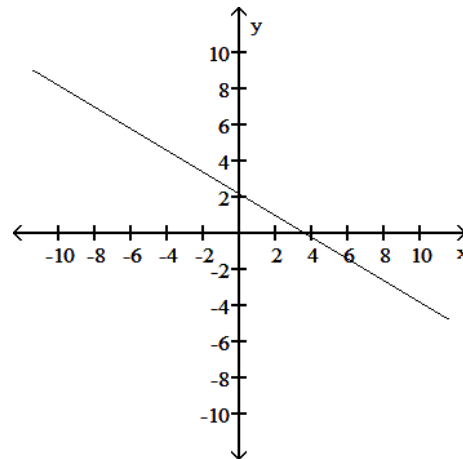
B) slope:  $\frac{3}{4}$



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



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



Answer: D

Diff: 0 Type: BI

Solve the problem.

16) 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  $C = mx + b$ .

A)  $C = 60x + 1520$

B)  $C = 44x + 1520$

C)  $C = 44x + 320$

D)  $C = 60x + 320$

Answer: C

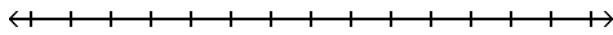
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16) \_\_\_\_\_

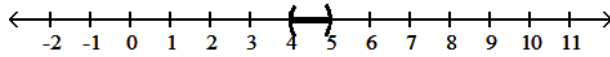
Solve the inequality and graph. Express your answer in interval notation.

17)  $-23 \leq -4x - 3 \leq -19$

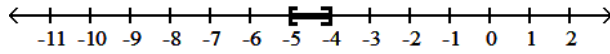
17) \_\_\_\_\_



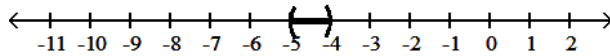
A)  $(4, 5)$



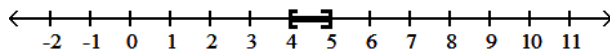
B)  $[-5, -4]$



C)  $(-5, -4)$



D)  $[4, 5]$

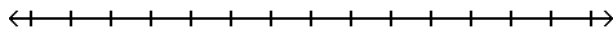


Answer: D

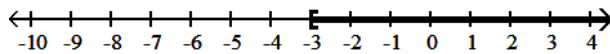
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18)  $7x - 3 > 6x - 6$

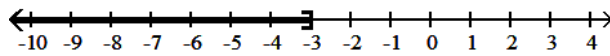
18) \_\_\_\_\_



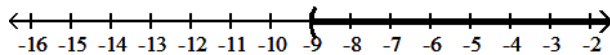
A)  $[-3, \infty)$



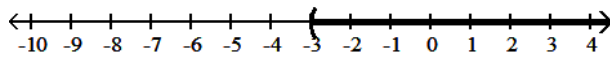
B)  $(-\infty, -3]$



C)  $(-9, \infty)$



D)  $(-3, \infty)$



Answer: D

Diff: 0 Type: BI

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

19)  $y = -\frac{4}{5}x + \frac{32}{5}$

19) \_\_\_\_\_

A) Slope =  $\frac{4}{5}$ ; y intercept =  $\frac{22}{5}$

B) Slope =  $\frac{4}{5}$ ; y intercept =  $\frac{32}{5}$

C) Slope =  $\frac{5}{4}$ ; y intercept =  $\frac{22}{5}$

D) Slope =  $-\frac{4}{5}$ ; y intercept =  $\frac{32}{5}$

Answer: D

Diff: 0 Type: BI

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

20) Slope = 1; y intercept = 1

20) \_\_\_\_\_

A)  $y = 1x + 1$

B)  $y = -x + 1$

C)  $y = 1x - 1$

D)  $y = x + 1$

Answer: D

Diff: 0 Type: BI

Solve the problem.

21) 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%?

21) \_\_\_\_\_

A) \$37,500 at 10%, \$12,500 at 6%

B) \$37,500 at 6%, \$12,500 at 10%

C) \$37,000 at 6%, \$13,000 at 10%

D) \$37,000 at 10%, \$13,000 at 6%

Answer: A

Diff: 0 Type: BI

Provide an appropriate response.

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

22) \_\_\_\_\_

A)  $2x + 7y = 36$

B)  $2x + 7y = -36$

C)  $2x - 7y = 36$

D)  $7x + 2y = -36$

Answer: A

Diff: 0 Type: BI

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

23) \_\_\_\_\_

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

A)  $-2x - y = 0$

B)  $x = -2$

C)  $y = 6$

D)  $-x - 2y = 0$

Answer: C

Diff: 0 Type: BI

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

24)  $y = x - 5$

24) \_\_\_\_\_

A) Slope = -5; y intercept = -1

B) Slope = 1; y intercept = -5

C) Slope = 0; y intercept = 5

D) Slope = -5; y intercept = 1

Answer: B

Diff: 0 Type: BI



25)  $y = -\frac{x}{2} + 3$

25) \_\_\_\_\_

A) Slope =  $-\frac{1}{2}$ ; y intercept = 3

B) Slope = 3; y intercept =  $\frac{1}{2}$

C) Slope = 3; y intercept =  $-\frac{1}{2}$

D) Slope =  $-\frac{1}{2}$ ; y intercept = -3

Answer: A

Diff: 0 Type: BI

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

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

26) \_\_\_\_\_

A) 14

B) -2

C) -14

D) -6

Answer: D

Diff: 0 Type: BI

Provide an appropriate response.

27) Find the standard form of the equation of the line passing through the two points.

27) \_\_\_\_\_

(2, -6) and (-9, 6)

A)  $-8x + 15y = -18$

B)  $12x + 11y = -42$

C)  $-12x + 11y = -42$

D)  $8x - 15y = -18$

Answer: B

Diff: 0 Type: BI

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

28)  $y = 3x - 6$

28) \_\_\_\_\_

A) Slope = 3, y intercept = -6

B) Slope = -6, y intercept = 3

C) Slope = 6, y intercept = 3

D) Slope = 3, y intercept = 6

Answer: A

Diff: 0 Type: BI

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

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

29) \_\_\_\_\_

A) -17

B) -22

C) -11

D) -16

Answer: B

Diff: 0 Type: BI

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

30) Slope =  $-\frac{1}{2}$ ; y intercept = -2

30) \_\_\_\_\_

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

B)  $y = -\frac{x}{2} - 2$

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

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

Answer: B

Diff: 0 Type: BI

Solve the formula for the specified variable.

31) Solve:  $D = \frac{4}{5}(mx - mb)$  for  $m$  31) \_\_\_\_\_

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

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

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

D)  $m = \frac{5D}{4(x + b)}$

Answer: A

Diff: 0 Type: BI

Find the slope of the line containing the given points.

32)  $(9, -7); (-6, 6)$  32) \_\_\_\_\_

A)  $\frac{13}{15}$

B)  $-\frac{13}{15}$

C)  $-\frac{15}{13}$

D)  $\frac{15}{13}$

Answer: B

Diff: 0 Type: BI

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)  $x = 10$

B)  $x + y = 19$

C)  $y = 9$

D)  $x + y = 11$

Answer: A

Diff: 0 Type: BI

Solve the problem.

34) Find the Celsius temperature (to the nearest degree) when Fahrenheit temperature is  $95^\circ$  by solving 34) \_\_\_\_\_

the equation  $95 = \frac{9}{5}C + 32$ , where  $F$  is the Fahrenheit temperature (in degrees) and  $C$  is the Celsius

temperature.

A)  $49^\circ\text{C}$

B)  $177^\circ\text{C}$

C)  $35^\circ\text{C}$

D)  $203^\circ\text{C}$

Answer: C

Diff: 0 Type: BI

Solve the formula for the specified variable.

35)  $F = \frac{9}{5}C + 32$  for  $C$  35) \_\_\_\_\_

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

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

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

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

Answer: B

Diff: 0 Type: BI

Find the slope of the line containing the given points.

36)  $(6, 1)$  and  $(6, -4)$  36) \_\_\_\_\_

A)  $-\frac{1}{4}$

B) 0

C) -4

D) Undefined

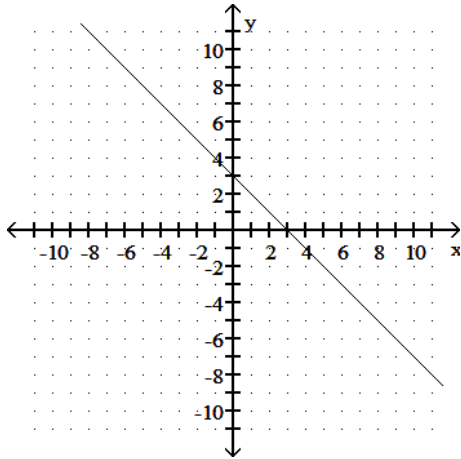
Answer: D

Diff: 0 Type: BI

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

37)

37) \_\_\_\_\_



A) negative

B) undefined

C) zero

D) positive

Answer: A

Diff: 0 Type: BI

Provide an appropriate response.

38) 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  $\pm 1$ ) and  $A > 0$ .

38) \_\_\_\_\_

A)  $16x - 3y = 21$

B)  $16x - 3y = -21$

C)  $-16x + 3y = 21$

D)  $3x - 16y = 21$

Answer: A

Diff: 0 Type: BI

39) 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  $\pm 1$ ) and  $A > 0$ .

39) \_\_\_\_\_

A)  $5x - 6y = 19$

B)  $5x + 6y = 19$

C)  $-5x + 6y = 19$

D)  $5x + 6y = -19$

Answer: B

Diff: 0 Type: BI

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

40) Slope = 4, y intercept = -5

40) \_\_\_\_\_

A)  $y = -4x - 5$

B)  $y = 5x + 4$

C)  $y = 5x - 4$

D)  $y = 4x - 5$

Answer: D

Diff: 0 Type: BI

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

41)  $-4(4x + 4) - 1 = -5(x + 1) + 3x$

41) \_\_\_\_\_

A)  $\left\{\frac{4}{7}\right\}$

B)  $\left\{-\frac{2}{3}\right\}$

C)  $\left\{\frac{1}{7}\right\}$

D)  $\left\{-\frac{6}{7}\right\}$

Answer: D

Diff: 0 Type: BI

Solve the problem.

- 42) 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. 42) \_\_\_\_\_
- A)  $p = -0.15x + 11.5$ ; 38 pounds  
B)  $p = -0.15x - 11.5$ ; 40 pounds  
C)  $p = 11.5x + -0.15$ ; 40 pounds  
D)  $p = 0.15x + 11.5$ ; 38 pounds

Answer: A

Diff: 0 Type: BI

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

- 43) Slope =  $-\frac{3}{4}$ ;  $y$  intercept =  $\frac{21}{4}$  43) \_\_\_\_\_
- A)  $y = -\frac{4}{3}x + \frac{21}{4}$   
B)  $y = -\frac{3}{4}x + \frac{21}{4}$   
C)  $y = \frac{3}{4}x + \frac{13}{4}$   
D)  $y = -\frac{3}{4}x - \frac{21}{4}$

Answer: B

Diff: 0 Type: BI

Use the REGRESSION feature on a graphing calculator.

- 44) 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. 44) \_\_\_\_\_

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)  $y = 0.1x^2 + 0.29x + 4.57$   
B)  $y = 0.04x^3 - 0.23x^2 + 1.01x + 4.35$   
C)  $y = 4.07x + 0.89$   
D)  $y = 0.89x + 4.07$

Answer: D

Diff: 0 Type: BI

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

- 45) Solve:  $\frac{x-2}{3} - \frac{x-3}{6} = \frac{3-x}{2} - 3$  45) \_\_\_\_\_
- A) 2  
B) -2  
C) 3  
D) -3

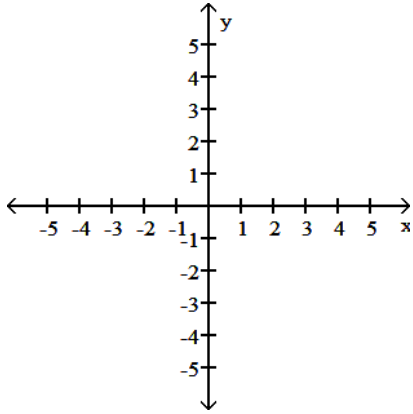
Answer: B

Diff: 0 Type: BI

Provide an appropriate response.

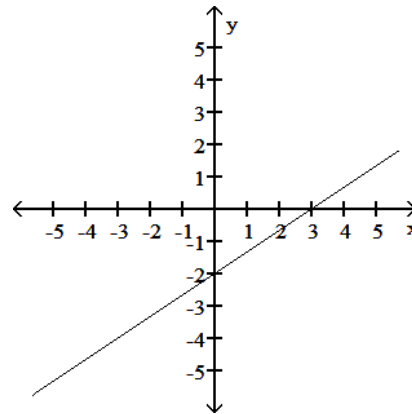
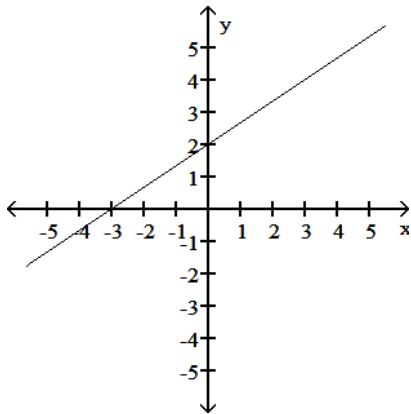
46) Graph the linear function defined by  $f(x) = \frac{2}{3}x + 2$  and indicate the slope and intercepts.

46) \_\_\_\_\_



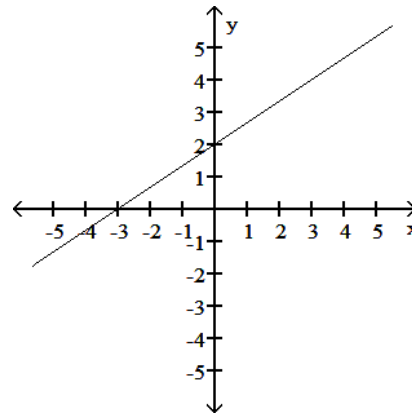
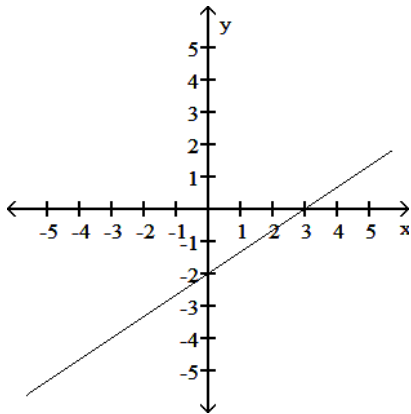
A) x-intercept = 2; y-intercept = -3; slope  $\frac{2}{3}$

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



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

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



Answer: D

Diff: 0 Type: BI

Use the REGRESSION feature on a graphing calculator.

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

47) \_\_\_\_\_

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)  $y = -9.19x^3 + 0.11x^2 - 2.90x + 6.54$

B)  $y = -0.06x^2 + 7.20x - 191.23$

C)  $y = 14.57x + 0.21$

D)  $y = 0.21x + 14.57$

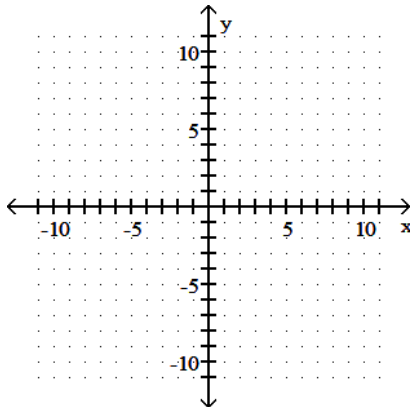
Answer: D

Diff: 0 Type: BI

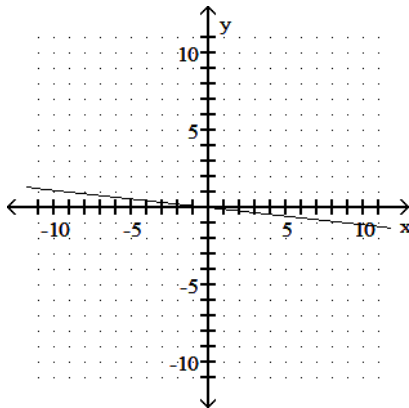
Graph the equation.

- 48)  $72 + 8y = 0$

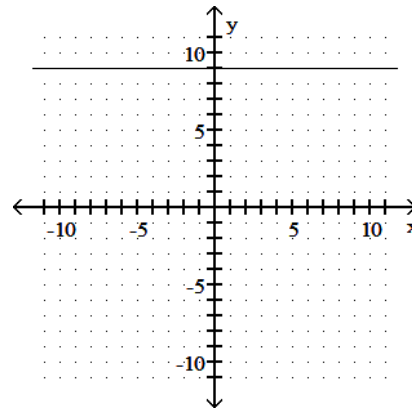
48) \_\_\_\_\_



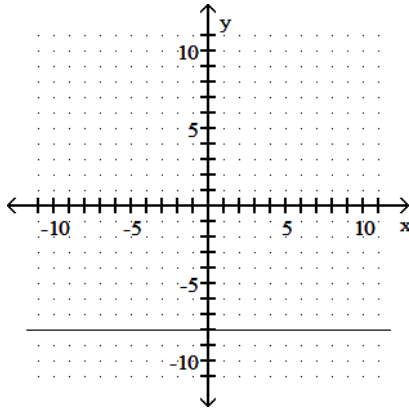
A)



B)



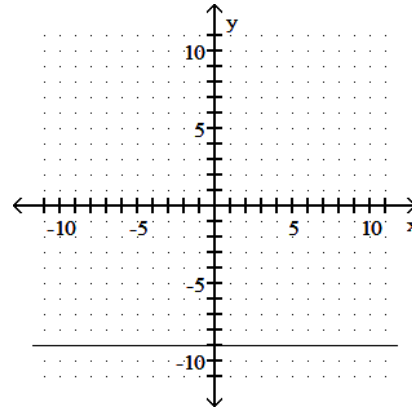
C)



Answer: D

Diff: 0 Type: BI

D)



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

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

49) \_\_\_\_\_

A)  $y = \frac{5}{2}x + \frac{3}{2}$

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

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

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

Answer: C

Diff: 0 Type: BI

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

50)  $y = -4x + 6$

50) \_\_\_\_\_

A) Slope = -6, y intercept = -4

B) Slope = 6, y intercept = -4

C) Slope = 4, y intercept = -6

D) Slope = -4, y intercept = 6

Answer: D

Diff: 0 Type: BI

51)  $y = \frac{5}{2}x - \frac{7}{2}$

51) \_\_\_\_\_

A) Slope =  $\frac{7}{2}$ ; y intercept =  $\frac{5}{2}$

B) Slope =  $\frac{5}{2}$ ; y intercept =  $\frac{7}{2}$

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

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

Answer: D

Diff: 0 Type: BI

Solve the problem.

52) A piece of equipment was purchased by a company for \$10,000 and is assumed to have a salvage 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  $t$ ,  $0 \leq t \leq 10$ .

52) \_\_\_\_\_

A)  $V = 700t + 10,000$

B)  $V = -700t - 10,000$

C)  $V = -700t + 10,000$

D)  $T = -700V + 10,000$

Answer: C

Diff: 0 Type: BI

Use the REGRESSION feature on a graphing calculator.

- 53) 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. 53) \_\_\_\_\_

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

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

Answer: D

Diff: 0    Type: BI

- 54) 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. 54) \_\_\_\_\_

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.

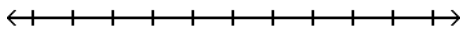
- A)  $y = 44.3 + 0.930x$                       B)  $y = 0.930 + 44.3x$   
 C)  $y = 1.86 + 88.6x$                       D)  $y = 88.6 - 1.86x$

Answer: D

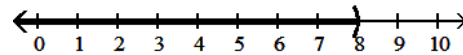
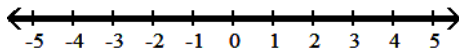
Diff: 0    Type: BI

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

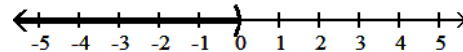
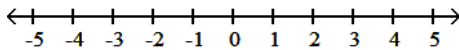
- 55)  $-4(-2 - x) < 6x + 19 - 11 - 2x$  55) \_\_\_\_\_



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



- C)  $\emptyset$                       D)  $(-\infty, 0)$



Answer: C

Diff: 0    Type: BI



Solve the problem.

- 56) Using a phone card to make a long distance call costs a flat fee of \$0.85 plus per \$0.19 minute starting with the first minute. Find the total cost of a phone call which lasts 8 minutes. 56) \_\_\_\_\_  
A) \$2.37                      B) \$1.52                      C) \$6.00                      D) \$8.16

Answer: A

Diff: 0    Type: BI

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

- 57)  $\frac{5x - 7}{5} = \frac{7x + 3}{2}$  57) \_\_\_\_\_  
A)  $-\frac{29}{25}$                       B)  $-\frac{1}{25}$                       C)  $\frac{1}{45}$                       D)  $\frac{29}{45}$

Answer: A

Diff: 0    Type: BI

Use the REGRESSION feature on a graphing calculator.

- 58) Efficiency experts rate employees according to job performance and attitude. The results for several randomly selected employees are given below. 58) \_\_\_\_\_

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)  $y = 2.81 + 1.35x$                       B)  $y = 11.7 + 1.02x$   
C)  $y = -47.3 + 2.02x$                       D)  $y = 92.3 - 0.669x$

Answer: B

Diff: 0    Type: BI

Solve the problem.

- 59) 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  $C = mx + b$ . 59) \_\_\_\_\_  
A)  $C = 9x$                       B)  $C = 600x + 9$                       C)  $C = 9x + 600$                       D)  $C = 9x - 600$

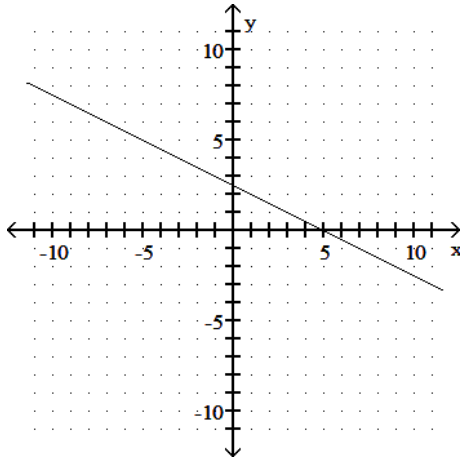
Answer: D

Diff: 0    Type: BI

Use the graph to find the average rate of change.

60)

60) \_\_\_\_\_



A)  $\frac{1}{2}$

B)  $-\frac{1}{2}$

C) - 2

D) 2

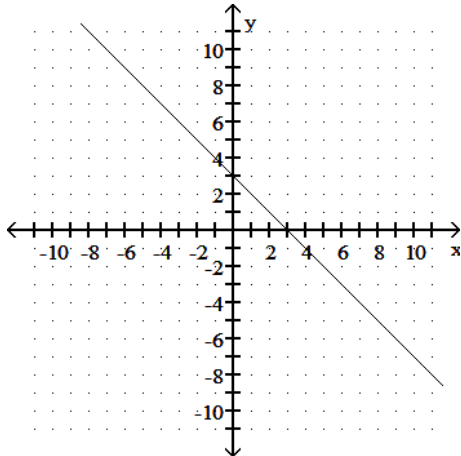
Answer: B

Diff: 0 Type: BI

Provide an appropriate response.

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

61) \_\_\_\_\_



A)  $y = 3x$

B)  $y = -x + 3$

C)  $y = x - 3$

D)  $y = x + 3$

Answer: B

Diff: 0 Type: BI

Solve the formula for the specified variable.

62)  $7x + 10y = 19$  for  $y$

62) \_\_\_\_\_

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

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

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

D)  $y = 7x - 19$

Answer: B

Diff: 0 Type: BI

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

63)  $m = 3$ , passing through  $(1, -2)$

A)  $y = 5x - 3$

B)  $y = 3x$

C)  $y = 3x - 5$

D)  $y - 5 = 3x$

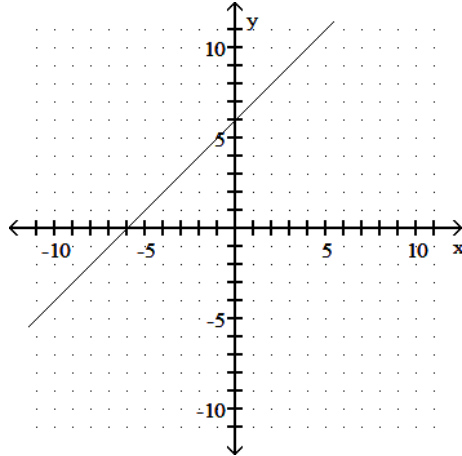
63) \_\_\_\_\_

Answer: C

Diff: 0 Type: BI

Use the graph to find the average rate of change.

64)



A) -6

B) 1

C) 6

D) -1

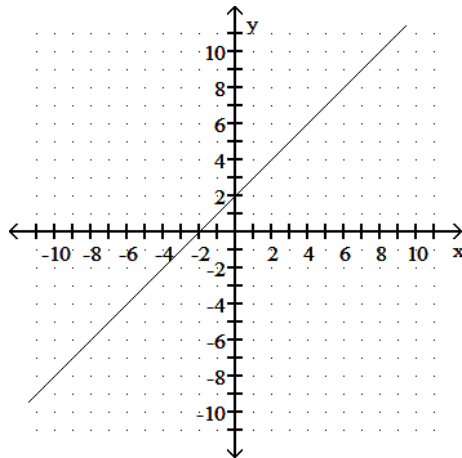
64) \_\_\_\_\_

Answer: B

Diff: 0 Type: BI

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

65)



A) undefined

B) negative

C) positive

D) zero

65) \_\_\_\_\_

Answer: C

Diff: 0 Type: BI

Provide an appropriate response.

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

A)  $-\frac{3}{4}$

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

C)  $\frac{3}{4}$

D) 0

66) \_\_\_\_\_

Answer: A

Diff: 0 Type: BI

Solve the problem.

67) 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.

67) \_\_\_\_\_

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

Answer: B

Diff: 0 Type: BI

68) 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?

68) \_\_\_\_\_

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

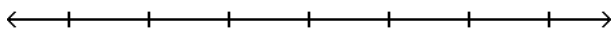
Answer: B

Diff: 0 Type: BI

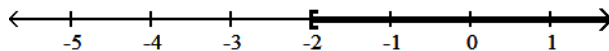
Solve the inequality and graph. Express your answer in interval notation.

69)  $18x + 3 > 3(5x - 1)$

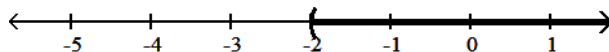
69) \_\_\_\_\_



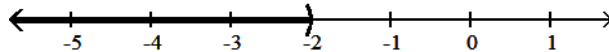
A)  $[-2, \infty)$



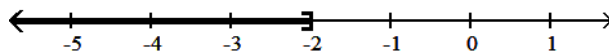
B)  $(-2, \infty)$



C)  $(-\infty, -2)$



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



Answer: B

Diff: 0 Type: BI

Use the REGRESSION feature on a graphing calculator.

- 70) 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.

70) \_\_\_\_\_

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

Answer: D

Diff: 0    Type: BI

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

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

71) \_\_\_\_\_

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

Answer: C

Diff: 0    Type: BI

## Answer Key

Testname: CH1

- 1) B  
Diff: 0 Page Ref:  
Topic:
- 2) B  
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- 3) B  
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- 4) B  
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- 6) A  
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- 10) C  
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- 11) B  
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- 12) D  
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- 13) B  
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- 14) C  
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- 15) D  
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- 16) C  
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## Answer Key

Testname: CH1

- 17) D  
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- 19) D  
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- 30) B  
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- 31) A  
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- 32) B  
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## Answer Key

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- 33) A  
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- 34) C  
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- 35) B  
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- 36) D  
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- 46) D  
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- 47) D  
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- 48) D  
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Answer Key  
Testname: CH1

- 49) C  
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- 50) D  
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- 51) D  
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- 52) C  
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## Answer Key

Testname: CH1

65) C

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66) A

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67) B

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68) B

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70) D

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71) C

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