

For Incoming Algebra Students

Evaluate each expression.

1) $(-6) + (-1)$

 -7

2) $1 + (-2)$

 -1

3) $(-8) - 1$

 -9

4) $1 - (-8)$

 9

5) $(-7) - 6 + (-4)$

 -17

6) $(-3) - (-6) - 2$

 1

7) $4 - 4 - 7$

 -7

8) $(-3) - 6 - (-5)$

 -4

9) $|4|$

10) $|-7|$

11) $\sqrt{81}$

12) $\sqrt{64}$

Find each product.

13) $(-3)(-9)$

 27

14) $(8)(-7)$

 -56

15) $(-10)(-1)(-10)$

 -100

16) $(3)(8)(-3)$

 -72

17) $-5 * 0$

0

18) $-5 * -1$

5

Find each quotient.

19) $\frac{-8}{-1}$

8

20) $-6 \div -2$

3

21) $12 \div -6$

-2

22) $\frac{-30}{3}$

-10

23) $\frac{3}{0}$

undefined

24) $\frac{0}{9}$

0

Evaluate each expression.

25) $-4 + -5 - (-6 - -5)$

-8

26) $-6 - |2 - 6|$

-10

27) $\frac{3 - -5}{-4 \cdot -1}$

2

28) $(-3)^2 |6|$

54

Find each sum.

29) $\frac{7}{8} + \frac{3}{2}$

 $\frac{19}{8}$

30) $\frac{1}{4} + 2\frac{1}{2}$

 $\frac{11}{4}$

Find each difference.

$$31) \frac{5}{7} - \frac{1}{2}$$

$$\frac{3}{14}$$

$$32) 4\frac{3}{8} - \frac{1}{2}$$

$$\frac{31}{8}$$

Find each product.

$$33) 1\frac{2}{5} \cdot \frac{1}{4}$$

$$\frac{7}{20}$$

$$34) 2 \cdot \frac{5}{6}$$

$$\frac{5}{3}$$

Find each quotient.

$$35) \frac{1}{3} \div \frac{5}{8}$$

$$\frac{8}{15}$$

$$36) \frac{1}{2} \div 2$$

$$\frac{1}{4}$$

Simplify each expression.

$$37) -9b + 9b$$

$$0$$

$$38) 5k - 2 + 4k - 7$$

$$9k - 9$$

$$39) -5(n - 10)$$

$$-5n + 50$$

$$40) -10(1 + 10r)$$

$$-10 - 100r$$

$$41) -p + 7(5 + 5p)$$

$$34p + 35$$

$$42) -7(10x - 6) - 2(8 + 5x)$$

$$-80x + 26$$

Solve each equation.

$$43) b - 20 = -20$$

$$\{0\}$$

$$44) p - 12 = -20$$

$$\{-8\}$$

$$45) -27 = x - 16$$

$$\{-11\}$$

$$46) 20x = 300$$

$$\{15\}$$

$$47) \frac{a}{18} = 12$$

$$\{216\}$$

$$48) \frac{k}{11} = -14$$

$$\{-154\}$$

$$49) \frac{x}{7} - 6 = -8$$

$$\{-14\}$$

$$50) -2m - 6 = 34$$

$$\{-20\}$$

$$51) \frac{x - 10}{3} = -7$$

$$\{-11\}$$

$$52) 4(x + 8) = 88$$

$$\{14\}$$

$$53) 127 = -x + 4(5x + 8)$$

$$\{5\}$$

$$54) 105 = -5(-2v - 5)$$

$$\{8\}$$

$$55) 224 = 6(3k + 4) + 7k$$

$$\{8\}$$

$$56) v + 9 = 2v + 6$$

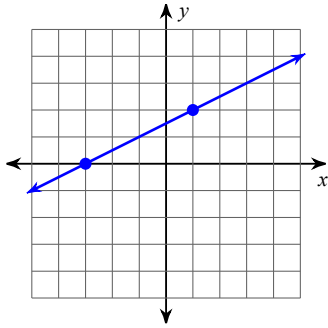
$$\{3\}$$

$$57) 2 - 2m = -14 + 2 + m - 7$$

$$\{7\}$$

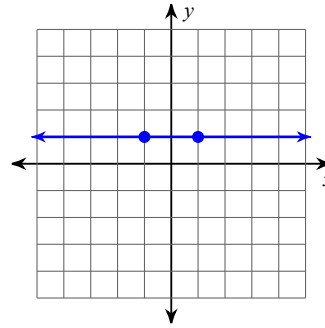
Find the slope of each line.

58)



$$\frac{1}{2}$$

59)



$$0$$

Find the slope of the line through each pair of points.

60) $(14, 0), (-11, -7)$

$$\frac{7}{25}$$

61) $(3, 15), (17, 5)$

$$-\frac{5}{7}$$

Find the slope of each line.

62) $y = x + 1$

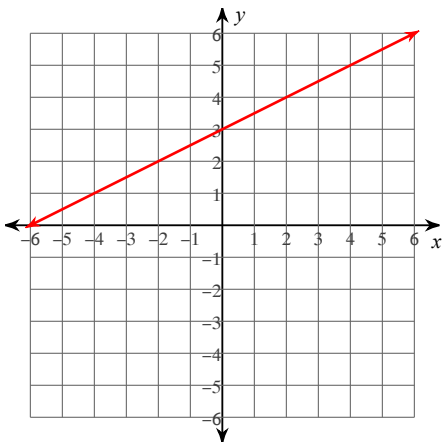
$$1$$

63) $y = -\frac{1}{5}x + 1$

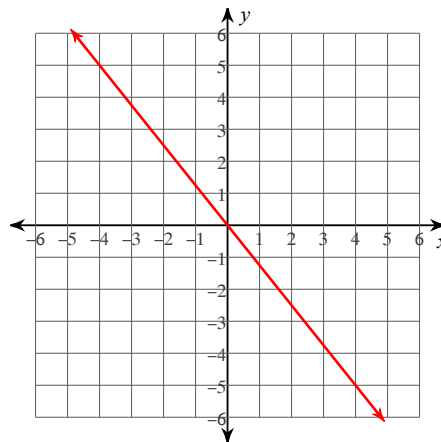
$$-\frac{1}{5}$$

Create an xy table of values and substitute x values to obtain at least four y values. Plot the points and sketch the line.

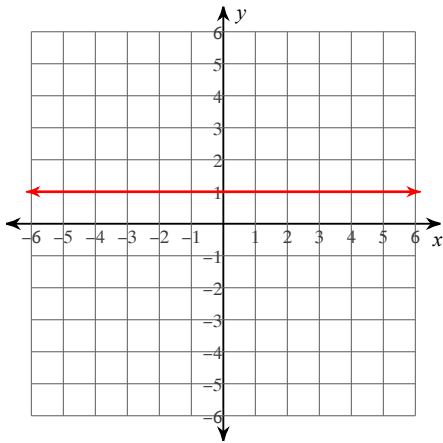
64) $y = \frac{1}{2}x + 3$



65) $y = -\frac{5}{4}x$



66) $y = 1$



67) Consider the line $x = 2$. Is this vertical or horizontal? Is the slope undefined or zero?

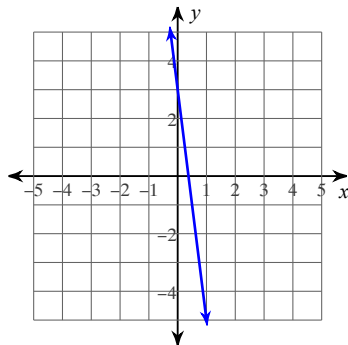
vertical, undefined

68) Consider the line $y = 5$. Is this vertical or horizontal? Is the slope undefined or zero?

horizontal, zero

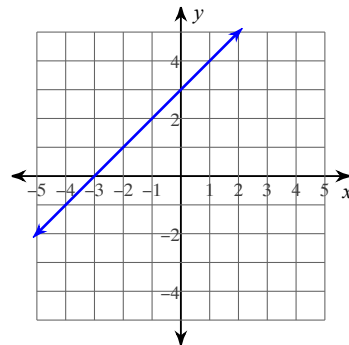
Write the slope-intercept form of the equation of each line.

69)



$y = -8x + 3$

70)



$y = x + 3$

Write the slope-intercept form of the equation of each line given the slope and y-intercept.

71) Slope = $\frac{7}{4}$, y-intercept = 2

$y = \frac{7}{4}x + 2$

72) Slope = 9, y-intercept = -5

$y = 9x - 5$

Write the slope-intercept form of the equation of each line.
That is, isolate y so you have $y = mx + b$ form.

73) $7x + 4y = -20$

$$y = -\frac{7}{4}x - 5$$

74) $x + 7y = -7$

$$y = -\frac{1}{7}x - 1$$

Write each as an algebraic expression.

75) the sum of 11 and b

$$11 + b$$

76) the product of q and 10

$$q \cdot 10$$

77) the quotient of p and 5

$$\frac{p}{5}$$

78) half of n

$$\frac{n}{2}$$

79) the difference of 30 and x

$$30 - x$$

80) 8 less than u

$$u - 8$$

81) n less than 24

$$24 - n$$

82) 5 squared

$$5^2$$

Solve each proportion.

83) $\frac{n}{2} = \frac{4}{8}$

$$\{1\}$$

84) $\frac{6}{m} = \frac{8}{2}$

$$\{1.5\}$$

Solve each problem.

85) What percent of 135 is 121?

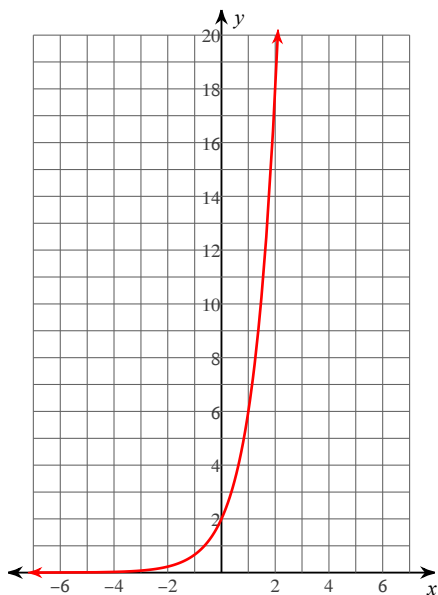
$$89.6\%$$

86) 68 is what percent of 135.5?

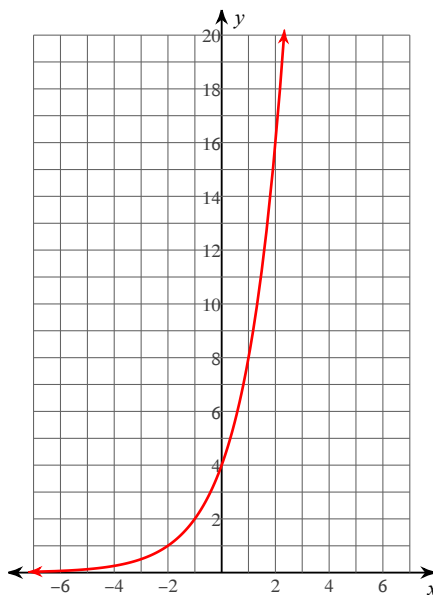
$$50.2\%$$

Create an xy table of values and substitute x values to obtain at least four y values. Plot the points and sketch the function.

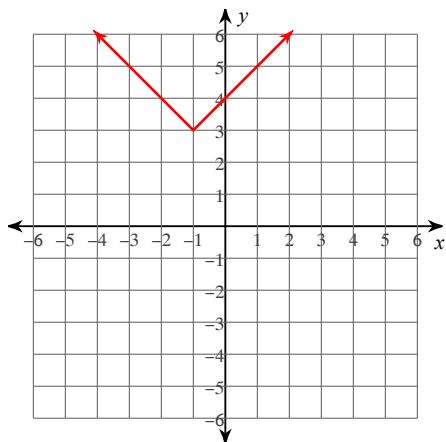
87) $y = 2 \cdot 3^x$



88) $y = 4 \cdot 2^x$



89) $y = |x + 1| + 3$



90) $y = |x| - 1$

