Algebra 1 Name_____ ID: 1

Assignment

Date_____ Period____

Write each as an algebraic expression.

1) a number decreased by 15

A) $\frac{n}{15} > 42$ B) $\frac{n}{15}$

C) $n - 15$ D) $15 - n$

2) the quotient of 16 and a number

A) $2 \cdot 16 = 31$ B) $\frac{n}{16} = 49$

C) $\frac{16}{n}$ D) $2 \cdot 16$

Evaluate each expression.

3) $\frac{4}{(6-5) \times 4}$

A) 3 B) 1

C) 2 D) 0

4) $\frac{2}{2} + 3 - 1$

A) 3 B) 4

C) 2 D) 1

5) $(-7) - (-2)$

A) −11 B) −6

C) −1 D) −5

6) $4 - 6$

A) −9 B) 0

C) 4 D) −2

7) $\frac{1}{6} - \frac{17}{8}$

A) $-\frac{59}{24}$ B) $-\frac{305}{168}$

C) $-\frac{43}{24}$ D) $-\frac{47}{24}$

8) $-\frac{15}{4} + -\frac{19}{7}$

A) $-\frac{263}{84}$ B) $-\frac{55}{28}$

C) $-\frac{225}{28}$ D) $-\frac{181}{28}$

Simplify each expression.

9) $-3a + a$

A) $2a$ B) $-10a$

C) $-20a$ D) $-2a$

10) $x - 6 - 6x$

A) $-5x - 6$ B) $2x$

C) $17x - 12$ D) $-6x - 6$

Solve each equation.

11) $\frac{n}{15} = -18$

A) $\left\{-\frac{6}{5}\right\}$ B) $\{-270\}$

C) $\{-3\}$ D) $\{-33\}$

12) $14 = 18 + n$

A) $\{-4\}$ B) $\{252\}$

C) $\{32\}$ D) $\left\{\frac{7}{9}\right\}$

13) $-57 = -5x - 7$

A) $\{20\}$ B) $\{-9\}$

C) $\{3\}$ D) $\{10\}$

14) $23 = -7 + 6x$

A) $\{-6\}$ B) $\{19\}$

C) $\{14\}$ D) $\{5\}$

15) $\frac{v}{8} - 5 = -3$

A) $\{14\}$ B) $\{16\}$
C) $\{-20\}$ D) $\{-18\}$

16) $-21 = -5 + 2p$

A) $\{-6\}$ B) $\{-8\}$
C) $\{5\}$ D) $\{4\}$

17) $-84 = 6(4n - 6)$

A) $\{-3\}$ B) $\{-12\}$
C) $\{-2\}$ D) $\{-10\}$

18) $-5(-4r + 5) = -145$

A) $\{13\}$ B) $\{-6\}$
C) $\{8\}$ D) No solution.

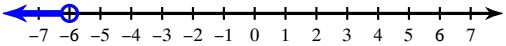
19) $-8(7 - 2n) - 4n = -104$

A) $\{2\}$ B) No solution.
C) $\{-4\}$ D) $\{-11\}$

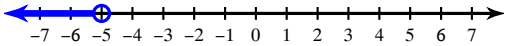
20) $3x - 8(3x - 3) = 150$

A) $\{-7\}$
B) { All real numbers. }
C) $\{-6\}$
D) $\{-10\}$

Write an inequality for each graph.

21) 

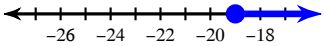
A) $p < 2$ B) $p \geq -6$
C) $p \leq 2$ D) $p < -6$

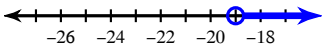
22) 

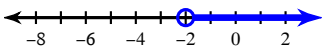
A) $k \leq -5$ B) $k \geq 5$
C) $k \leq 5$ D) $k < -5$

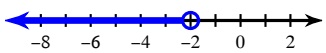
Solve each inequality and graph its solution.

23) $-3(v + 4) < 45$

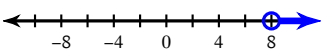
A) $v > -19$: 

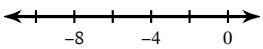
B) $v > -19$: 

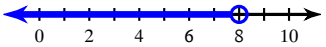
C) $v > -2$: 

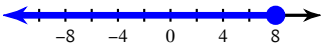
D) $v < -2$: 

24) $3(4n + 8) < 120$

A) $n > 8$: 

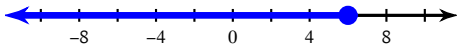
B) No solution. : 

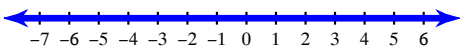
C) $n < 8$: 

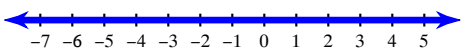
D) $n > 8$: 

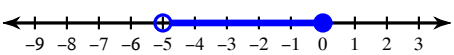
Solve each compound inequality and graph its solution.

25) $-4 < x + 1 \leq 1$

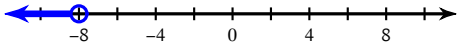
A) $x \leq 6$: 

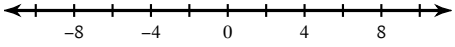
B) $0 \leq x \leq 6$: 

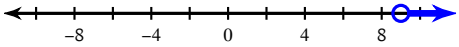
C) $-10 \leq x < 0$: 

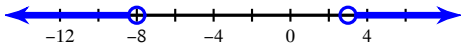
D) $-5 < x \leq 0$: 

26) $a + 7 > 10$ or $a + 3 < -5$

A) $a < -8$: 

B) No solution. : 

C) $a > 9$: 

D) $a > 3$ or $a < -8$: 

Find the value of x or y so that the line through the points has the given slope.

27) $(0, y)$ and $(-5, 9)$; slope: $-\frac{2}{5}$

A) -8 B) 5
C) 7 D) 4

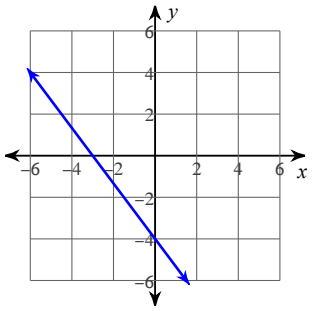
28) $(x, -1)$ and $(-7, 4)$; slope: $-\frac{5}{2}$

A) -7 B) -1
C) -5 D) 8

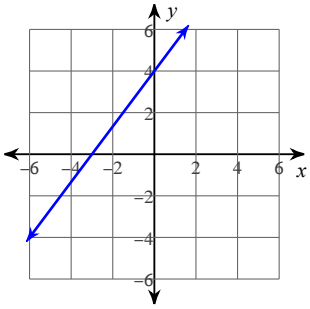
Sketch the graph of each line.

29) x-intercept = -3, y-intercept = 4

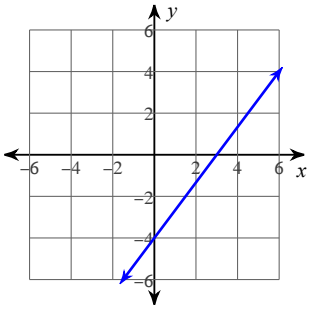
A)



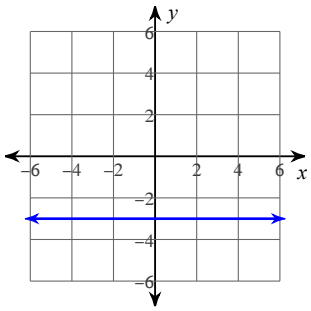
B)



C)

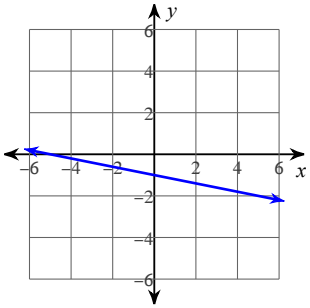


D)

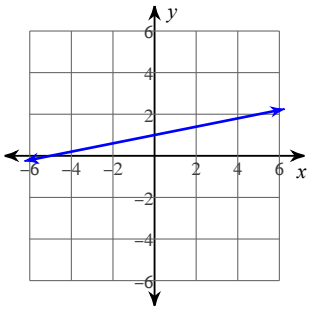


30) $y = \frac{1}{5}x + 1$

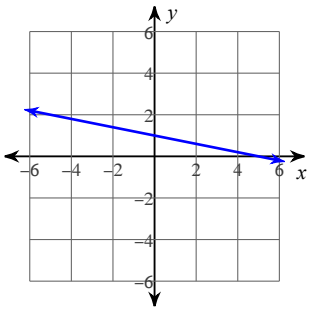
A)



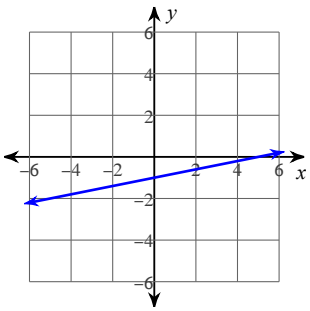
B)



C)

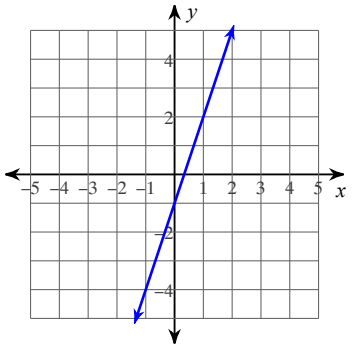


D)



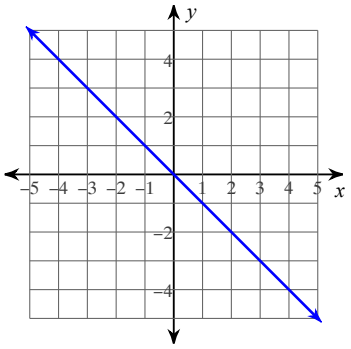
Write the slope-intercept form of the equation of each line.

31)



A) $y = 3x - 1$ B) $y = 5x - 1$
C) $y = 4x - 1$ D) $y = -4x - 1$

32)



A) $y = -x$ B) $y = -3x$
C) $y = 4x$ D) $y = 3x$

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

33) Slope = –1, y-intercept = 4

A) $y = x + 4$ B) $y = -x + 4$
C) $y = -2x + 4$ D) $y = 2x + 4$

34) Slope = $-\frac{2}{5}$, y-intercept = 3

A) $y = x + 3$ B) $y = \frac{1}{5}x + 3$
C) $y = -\frac{2}{5}x + 3$ D) $y = \frac{2}{5}x + 3$

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

35) $9x - 7y = -42$

A) $y = \frac{3}{7}x + 6$ B) $y = \frac{9}{7}x + 6$
C) $y = -\frac{5}{7}x + 6$ D) $y = \frac{5}{7}x + 6$

36) $4x + y = -2$

A) $y = -2x - 4$ B) $y = -2x + 1$
C) $y = -4x - 2$ D) $y = x - 2$

37) $y - 1 = -\frac{1}{3}(x + 4)$

A) $y = -x - \frac{1}{3}$
B) $y = x - \frac{1}{3}$
C) $y = \frac{4}{3}x - \frac{1}{3}$
D) $y = -\frac{1}{3}x - \frac{1}{3}$

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

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

Write the point-slope form of the equation of the line through the given point with the given slope.

39) through: $(1, -5)$, slope = -6

A) $y + 5 = -5(x + 1)$
B) $y + 5 = -6(x - 1)$
C) $y - 5 = 5(x - 1)$
D) $y - 1 = -3(x - 5)$

40) through: $(3, 1)$, slope = $-\frac{1}{3}$

A) $0 = x + 1$
B) $0 = x - 3$
C) $y - 1 = -\frac{1}{3}(x - 3)$
D) $0 = x - 1$

Write the point-slope form of the equation of the line described.

41) through: $(-1, 1)$, parallel to $y = -5x + 5$

A) $y - 1 = -5(x + 1)$
B) $y + 1 = -3(x + 1)$
C) $y + 1 = -4(x - 1)$
D) $y - 1 = 5(x - 1)$

42) through: $(-1, 5)$, perp. to $y = \frac{1}{10}x + 1$

A) $y + 1 = -3(x - 5)$
B) $y - 5 = -10(x + 1)$
C) $y - 1 = -\frac{1}{4}(x - 5)$
D) $y - 1 = \frac{1}{2}(x + 5)$

Solve each system by graphing.

43) $y = 3x - 2$
$y = 3x - 3$

A) No solution
B) $(1, -4)$
C) $(-1, -4)$
D) $(5, -4)$

44) $y = 2x - 1$
$y = -x + 2$

A) $(1, -1)$
B) $(1, 1)$
C) Infinite number of solutions
D) $(-1, 1)$

Solve each system by elimination.

45) $-10x + 7y = 9$
$20x - 14y = -30$

A) $(9, 9)$
B) $(-9, 9)$
C) $(-4, 9)$
D) No solution

46) $5x - 2y = 22$
$x - y = 5$

A) $(-4, 4)$
B) $(-4, -8)$
C) $(4, -4)$
D) $(4, -1)$

Solve each system by substitution.

47) $x + 4y = 5$
$-2x - 2y = 8$

A) $(3, -7)$
B) $(-3, -6)$
C) $(-7, 3)$
D) $(3, -6)$

48) $2x - 12y = 2$
$x - 6y = -5$

A) $(7, -8)$
B) No solution
C) $(7, 4)$
D) $(-1, -8)$