

## Algebra 1: Quarter 2 Semester Exam

**Evaluate each expression.**

1)  $9 \div (4 - 1)$

2)  $12 \div (3 - 1)$

3)  $(5 + 5 - 4) \div 6$

4)  $12 \div (3 - (5 - 5))$

**Evaluate each using the values given.**

5)  $p - q + p$ ; use  $p = 3$ , and  $q = -6$

6)  $x \div 4 + 5 + y$ ; use  $x = 4$ , and  $y = 6$

**Simplify each expression.**

7)  $x - 6 + 10x$

8)  $4(2 + 8p)$

9)  $3(n + 5) - 8$

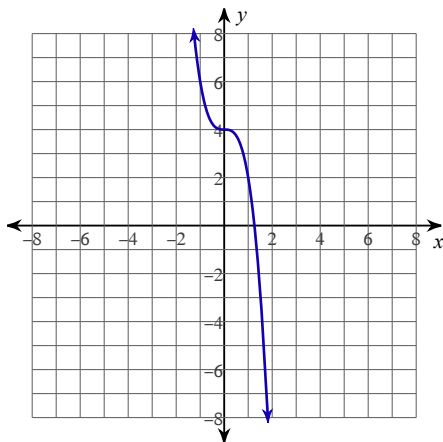
10)  $-2 - 7(3 + 6n)$

11)  $3(k + 5) - 2(k - 1)$

12)  $2(1 + m) - 3(2m + 1)$

**Determine whether the given relation is a function.**

13)



14) insert table

15)  $\{(3, 5), (5, -4), (-5, 3), (-3, -4), (2, -5)\}$

**Write each as an algebraic expression.**

16) a number decreased by 9 is 39

17) a number times 10 is 14

18) a number times 6 is greater than or equal to 42

19) the difference of a number and 4 is greater than or equal to 42

**Simplify.**

20)  $12 - |5 - 14|$

**Evaluate each expression.**

21)  $\left(-\frac{4}{3}\right) + \frac{13}{8}$

22)  $\frac{7}{4} + \left(-\frac{5}{6}\right)$

23)  $\left(-\frac{1}{4}\right) - \frac{7}{4}$

24)  $\left(-\frac{1}{2}\right) + \frac{7}{5}$

**Find each product.**

25)  $\left(-2\frac{1}{3}\right)\left(\frac{2}{3}\right)$

26)  $\left(\frac{3}{4}\right)\left(-\frac{7}{4}\right)$

**Find each quotient.**

27)  $\frac{-3}{5} \div \frac{7}{4}$

28)  $\frac{-7}{9} \div \frac{-3}{8}$

**Solve each equation.**

29)  $\frac{7+a}{3} = -2$

30)  $-3 + \frac{x}{8} = -4$

31)  $4 = 6 + 4r - 3r$

32)  $6x - 7 - 6x = -6$

$$33) -7(-2n + 8) = 5n - 38$$

$$34) 36 - 5p = -2p - 6(p - 4)$$

**Solve each equation for the indicated variable.**

$$35) z = x + m, \text{ for } x$$

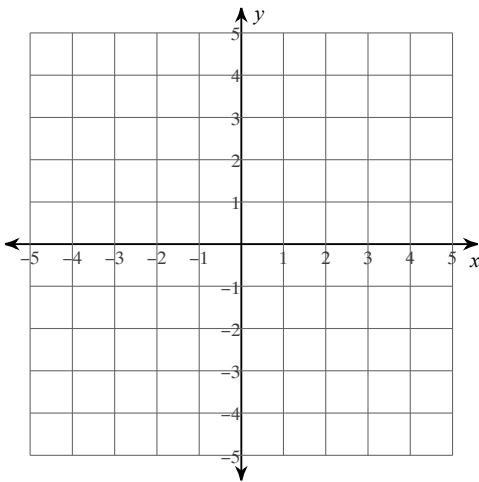
$$36) g = a - c, \text{ for } a$$

$$37) u = bak, \text{ for } a$$

$$38) u = \frac{ab}{k}, \text{ for } a$$

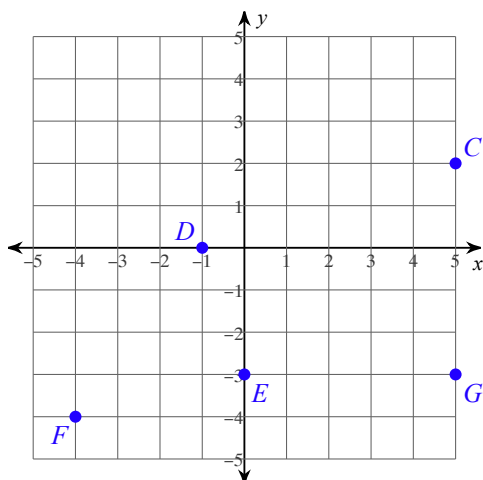
**Plot each point. Then state which quadrant EACH point is in.**

$$39) \begin{matrix} C(-5, 5) & D(-4, -1) & E(-3, -1) \\ F(4, 5) & G(3, -3) \end{matrix}$$



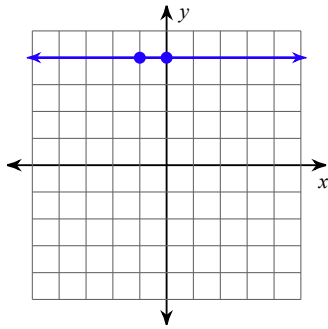
**State the coordinates of each point.**

40)

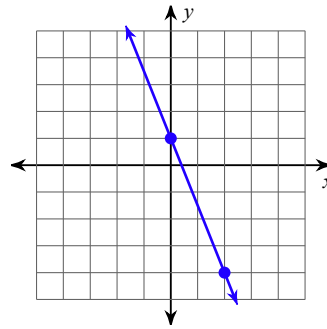


Find the slope of each line.

41)



42)



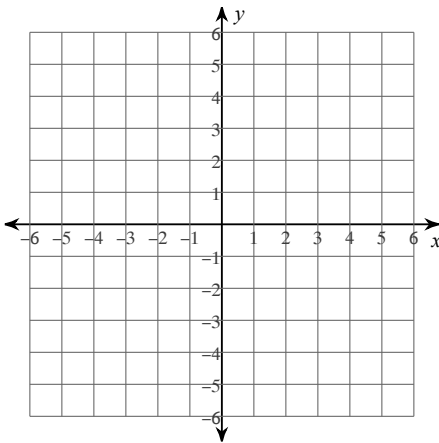
Find the slope of the line through each pair of points.

43)  $(-16, 8), (-20, 14)$

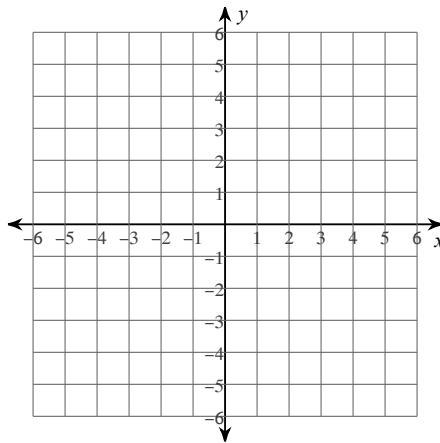
44)  $(3, -3), (-7, 20)$

- a) Create a table of values.
- b) Sketch the graph of each line.

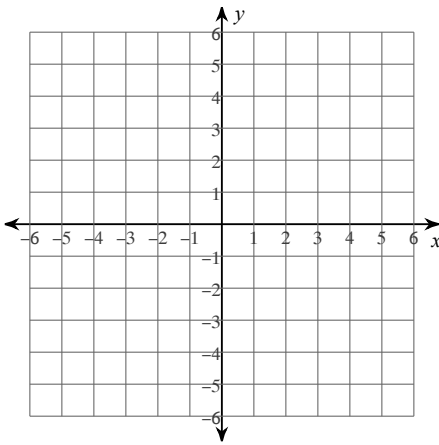
45)  $y = -\frac{2}{5}x + 2$



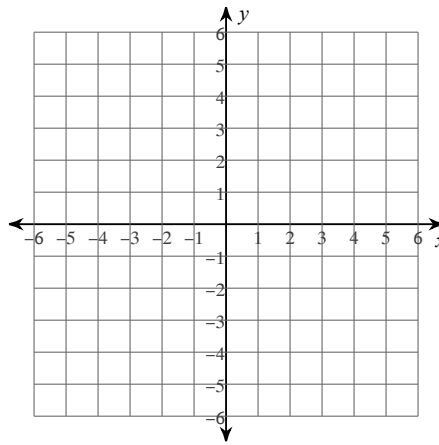
46)  $y = \frac{1}{2}x - 2$



47)  $3x - 5y = -5$



48)  $5x + 2y = 10$



**Identify the  $x$ - and  $y$ -intercepts of each equation.**

49)  $y = -3x - 12$

50)  $2x - 3y = 18$

**Find 5 solutions of the given linear equations.**

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

Solutions:

1) \_\_\_\_\_, 2) \_\_\_\_\_, 3) \_\_\_\_\_, 4) \_\_\_\_\_, 5) \_\_\_\_\_

**Determine whether the given value of the variable is a solution to the equation.**

52)  $y - 3x = 5$ ;  $(3, 5)$

**Determine whether the given ordered pair is a solution to the equation.**

53)  $y - 3x = 5$ ;  $(3, 5)$

# Answers to Algebra 1: Quarter 2 Semester Exam

1) 3

5) 12

9)  $3n + 7$

13)

17)  $n \cdot 10 = 14$

21)  $\frac{7}{24}$

25)  $-1\frac{5}{9}$

29)  $\{-13\}$

33)  $\{2\}$

37)  $a = \frac{u}{bk}$

2) 6

6) 12

10)  $-23 - 42n$

14)

18)  $n \cdot 6 \geq 42$

22)  $\frac{11}{12}$

26)  $-\frac{21}{16}$

30)  $\{-8\}$

34)  $\{-4\}$

38)  $a = \frac{uk}{b}$

3) 1

7)  $11x - 6$

11)  $k + 17$

15)

19)  $n - 4 \geq 42$

23) -2

27)  $-\frac{12}{35}$

31)  $\{-2\}$

35)  $x = z - m$

39)

4) 4

8)  $8 + 32p$

12)  $-1 - 4m$

16)  $n - 9 = 39$

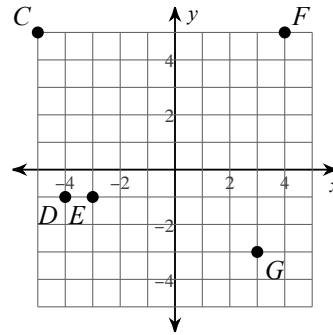
20) 3

24)  $\frac{9}{10}$

28)  $\frac{56}{27}$

32) No solution.

36)  $a = g + c$



40)  $C(5, 2)$      $D(-1, 0)$      $E(0, -3)$   
 $F(-4, -4)$      $G(5, -3)$

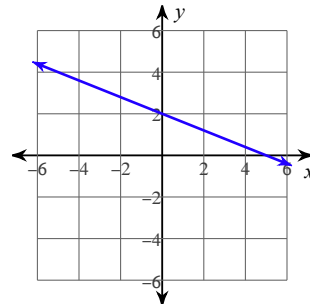
41) 0

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

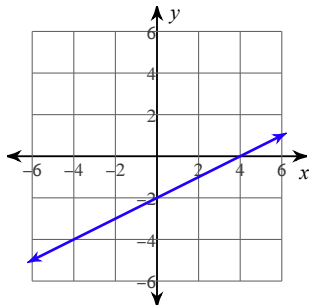
43)  $-\frac{3}{2}$

44)  $-\frac{23}{10}$

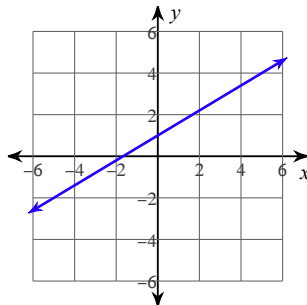
45)



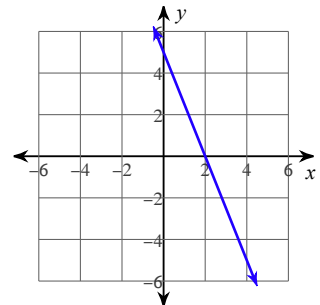
46)



47)



48)



49) x-intercept =  $(-4, 0)$   
 y-intercept =  $(0, -12)$

50) x-intercept =  $(9, 0)$   
 y-intercept =  $(0, -6)$

51)

52)

53)