

$$60/60 = 100$$

Foundations for College Algebra  
Spring 2017  
Exam #2  
University of North Georgia - M. Goodroe

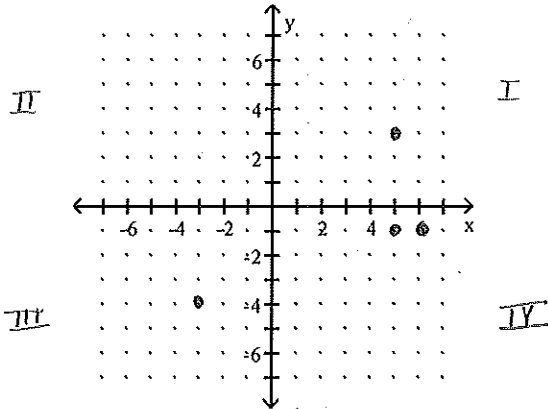
Name \_\_\_\_\_

*Key*

Date: \_\_\_\_\_

Plot the points corresponding to the ordered pairs, state which Quadrant the points are in, and determine if the set S represents a function. Explain your answer.

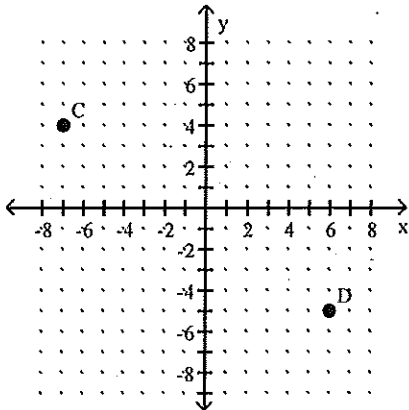
1)  $S = \{(5, -1), (-3, -4), (6, -1), (5, 3)\}$



*S is not a function  
because  $(5, -1) \neq (5, 3)$*

Find the x- and y-coordinates of each labeled point.

2)



$$C = (-7, 4)$$

$$D = (6, -5)$$

Determine whether the ordered pair is a solution of the given linear equation.

3)  $(3, 0); 2y + 4x = -12$

$$2(0) + 4(3) = -12$$

$$0 + 12 = -12$$

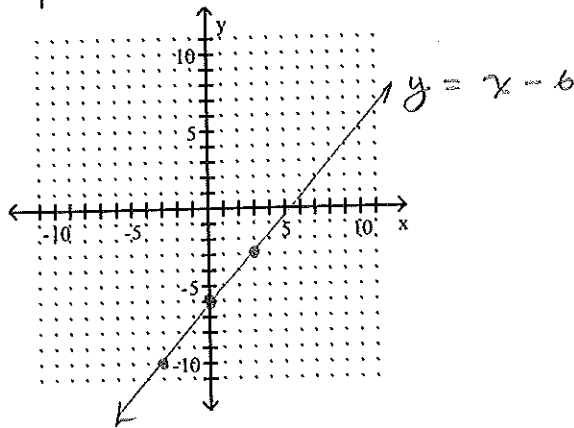
*no*

$$12 \neq -12$$

Find three ordered pair solutions by completing the table. Then use the ordered pairs to graph the equation.

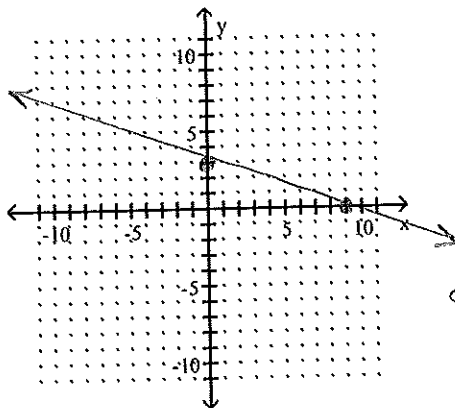
4)  $y = x - 6$

x	y
3	-3
-4	-10
0	-6



Graph the linear equation by finding and plotting its intercepts.

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

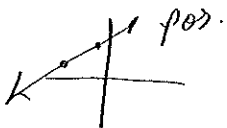


$x$ -int:  $0 + \frac{1}{3}x = 3$   
 $(9, 0)$   $x = 9$

$y$ -int:  $y + \frac{1}{3}(0) = 3$   
 $(0, 3)$   $y = 3$

First find the slope of the line that passes through the given points and write the equation in  $y = mx + b$  form.

6)  $(-8, 2)$  and  $(-3, 4)$



$$m = \frac{(4) - (2)}{(-3) - (-8)} = \frac{4 - 2}{-3 + 8} = \frac{2}{5}$$

$$2 = \frac{2}{5}(-8) + b$$

$$2 = -\frac{16}{5} + b$$

$$\frac{2}{1} + \frac{16}{5} = b$$

$$\frac{10 + 16}{5}$$

$$26 = b$$

$$y = \frac{2}{5}x + \frac{26}{5}$$

ck

$$2 \quad 4 = \frac{2}{5}(-3) + \frac{26}{5}$$

$$4 = \frac{-6}{5} + \frac{26}{5}$$

$$4 = \frac{20}{5}$$

$$4 = 4 \checkmark$$

Find the slope of the line.

7)  $11x + y = 9$

$$y = -11x + 9$$

$$m = -\frac{11}{1}$$

Find the domain and the range of the relation.

8)  $\{(8, 5), (-7, 5), (-5, 5)\}$

$$\text{Domain: } \{8, -7, -5\}$$

$$\text{Range: } \{5\}$$

Simplify the expression.

9)  $(-3z^2)(5z^3)$

$$-15z^5$$

10)  $\frac{(30pq)^3}{216p^3q^3}$

$$\frac{27,000 p^3 q^3}{216 p^3 q^3} = \boxed{125}$$

Simplify the following by combining like terms.

11)  $7r + 12r^6 - 3r^6 + 12r$

$$\boxed{9r^6 + 19r}$$

Perform the indicated operation.

12)  $(-17x + 19) - (-13x + 3)$

$$-17x + 19 + 13x - 3$$

$$\boxed{-4x + 16}$$

Multiply.

13)  $(x - 5)^3$

$$(x - 5)(x - 5)(x - 5)$$

$$(x^2 - 10x + 25)(x - 5)$$

$$x^3 - 5x^2 - 10x^2 + 50x + 25x - 125$$

$$\boxed{x^3 - 15x^2 + 75x - 125}$$

14) Multiply.

$$(8x - 1)(x^2 - 3x + 1)$$

$$8x^3 - 24x^2 + 8x - x^2 + 3x - 1$$

$$\boxed{8x^3 - 25x^2 + 11x - 1}$$

Multiply using the FOIL method.

$$15) (3y + 7)(3y + 8)$$

$$F: 3y \cdot 3y = 9y^2$$

$$O: 3y \cdot 8 = 24y$$

$$I: 7 \cdot 3y = 21y$$

$$L: 7 \cdot 8 = 56$$

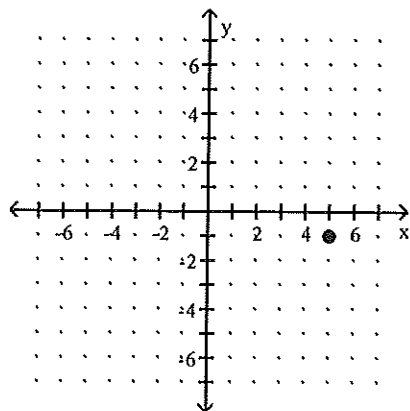
$$45y$$

$$\boxed{9y^2 + 45y + 56}$$

Answer Key

Testname: EXAM2(04-03-2017)

1)

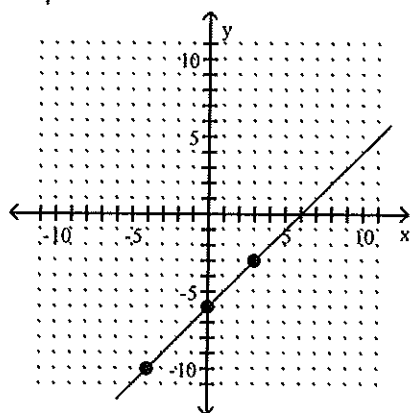


2) C(-7, 4); D(6, -5)

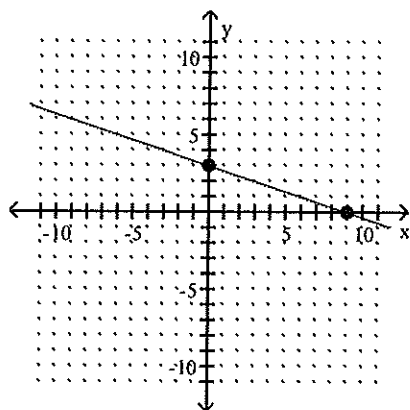
3) No

4)

x	y
3	-3
-4	-10
0	-6



5)



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

7)  $m = -11$

8) domain:  $\{-7, -5, 8\}$ ; range:  $\{5\}$

Answer Key

Testname: EXAM2(04-03-2017)

9)  $-15z^5$

10) 125

11)  $19r + 9r^6$

12)  $-4x + 16$

13)  $x^3 - 15x^2 + 75x - 125$

14)  $8x^3 - 25x^2 + 11x - 1$

15)  $9y^2 + 45y + 56$