

**Things to know from Section 4.1**

- Identify linear functions given the following:
  - Set of ordered pairs
  - Table of values
  - Graph
  - Equation
- Rewrite equations in standard form  $Ax + By = C$ 
  - $A$  and  $B$  both cannot be 0
  - $A$  must be positive
  - $A, B,$  and,  $C$  cannot be fractions
- Graph linear functions and identify domain and range

**Tell whether the set of ordered pairs satisfies a linear function.**

1.  $\{(-2,8), (0,5), (2,2), (4,-1), (6,-4)\}$   
 +2  
 -3

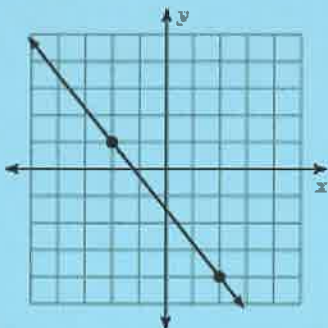
yes! There is a constant -3 change in  $y$  for a constant +2 change in  $x$ .

2.

x	1	2	3	4	5
y	1	3	9	27	81

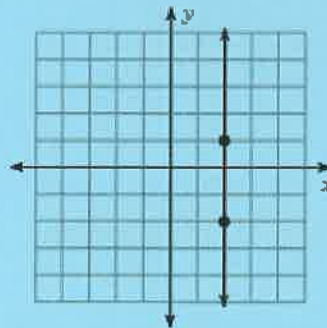
NO. there is no constant change in  $y$ .

**Tell whether the graph represents a function. Explain. If the graph does represent a function, is the function linear?**



3.

yes function  
yes linear



4.

not function

**Tell whether each function is linear. If so, rewrite the equation in standard form.**

5.  $y = 2x^2 - 3$

not a function

6.  $2xy = 5$

not a function

7.  $\left(y = \frac{2}{5}x + \frac{1}{2}\right)_{10}$

$10y = 4x + 5$     yes

$4x - 10y = -5$

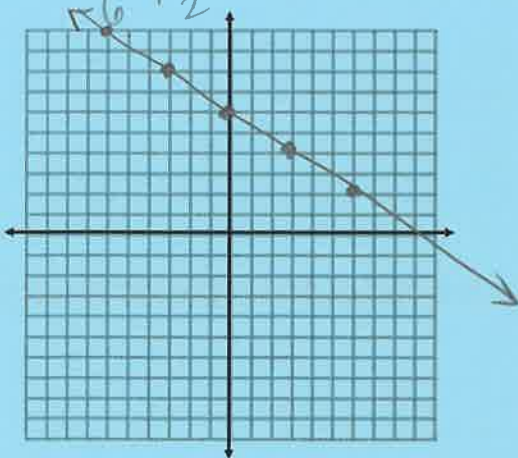
8.  $2x + 3y = 5$

yes

Graph the function using a table of values. You may need to solve for y first.

9.  $y = -\frac{2}{3}x + 6$

x	y
-4	10
-3	8
0	6
3	4
6	2

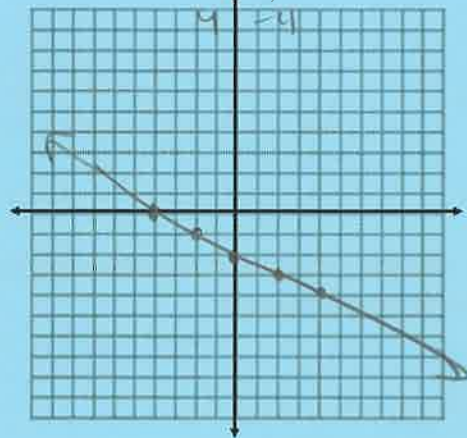


10.  $-3x - 6y = 12$

$-6y = 3x + 12$

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

x	y
-4	0
-2	-1
0	-2
2	-3
4	-4



Put the given equation into standard form.

11.  $-2x + 5y = 10$

$2x - 5y = -10$

12.  $\left(y = \frac{2}{3}x + \frac{1}{6}\right)_{6}$

$6y = 4x + 1$

$4x - 6y = -1$

**Things to know from Section 4.2**

- Find the x and y intercepts given the following:
  - Graph
  - Equation
- Graph a function using intercepts
- Interpret the intercepts

**Find the x and y intercepts for the given equation.**

13.  $-2x + 3y = 18$

x:  $(-9, 0)$

y:  $(0, 6)$

14.  $(y = \frac{1}{2}x - 4)^2$

$2y = x - 8$

$x - 2y = 8$

x:  $(8, 0)$

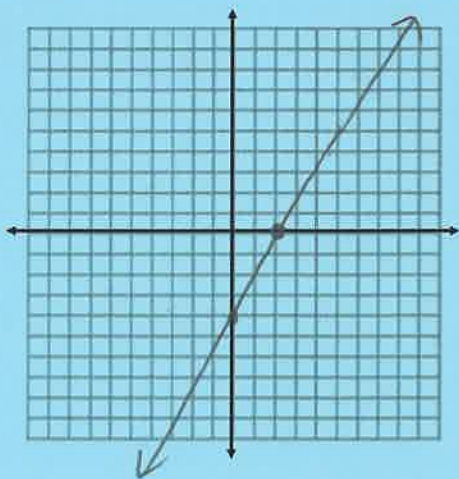
y:  $(0, -4)$

**Use intercepts to graph the line described by the given equation**

15.  $-6x + 3y = -12$

$x = 2$

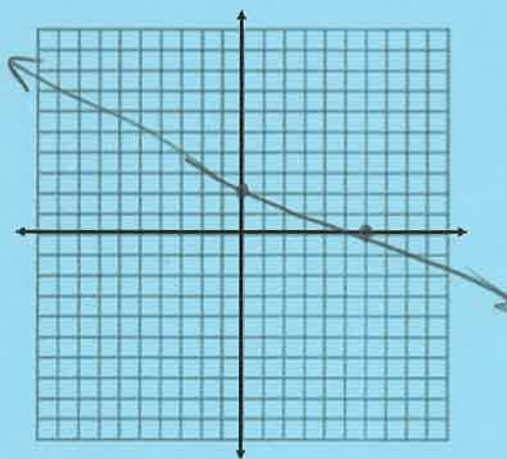
$y = -4$



16.  $x + 3y = 6$

$x = 6$

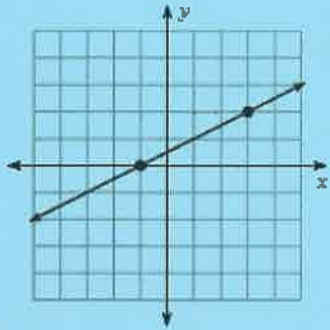
$y = 2$



**Things to know from Section 4.3**

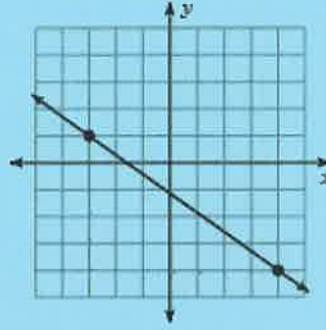
- Find the slope given the following:
  - Graph
  - Table
- Describe the slope
  - Positive, negative, zero, or undefined

**Find the slope.**



$\frac{1}{2}$

17.



$-\frac{5}{7}$

18.

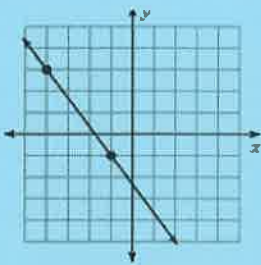
<b>x</b>	-2	1	4	7
<b>y</b>	0	-2	-4	-6



$\frac{-3}{2}$

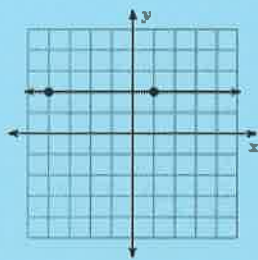
19.

**Describe the slope (positive, negative, undefined, or zero).**



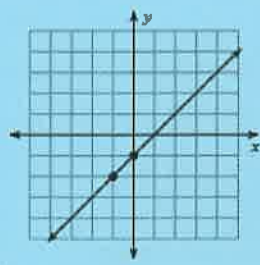
20.

neg.



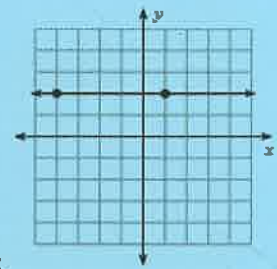
21.

zero



22.

pos.



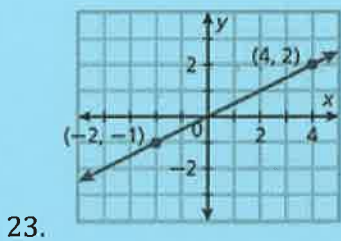
23.

zero

**Things to know from Section 4.4**

- Find the slope using the slope formula given the following:
  - Ordered Pairs
  - Graph
  - Table
- Find a rate of change (use correct units)

**Find the slope. (More practice on worksheet in class)**



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

25.

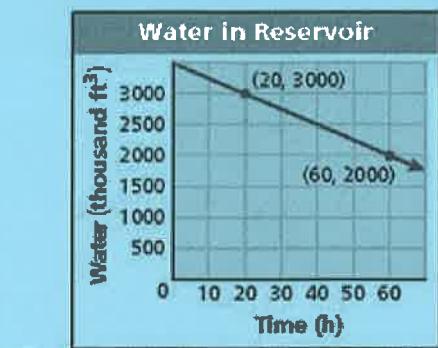
x	y
0	25
2	45
4	65
6	85

$$10$$

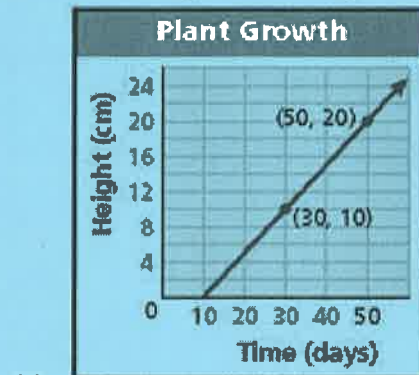
26. (2, 3) and (-3, 8)

$$\frac{8-3}{-3-2} = \frac{5}{-5} = -1$$

**Find the rate of change. Be sure to include units.**



$$\frac{-1000}{-40} = \frac{100}{40} = \frac{50}{2}$$



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