

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. $\{(-2,8), (0,5), (2,2), (4,-1), (6,-4)\}$
 (Handwritten: $+2$ under x-values, -3 over y-values)

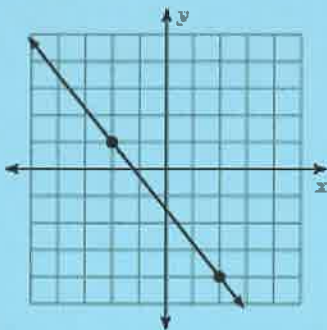
yes! There is a constant -3 change in y for a constant $+2$ change in x .

2.

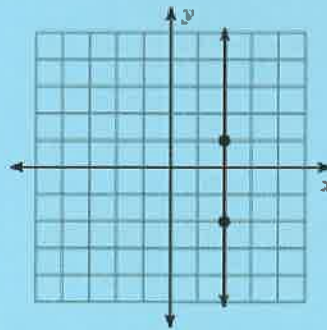
x	1	2	3	4	5
y	1	3	9	27	81

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

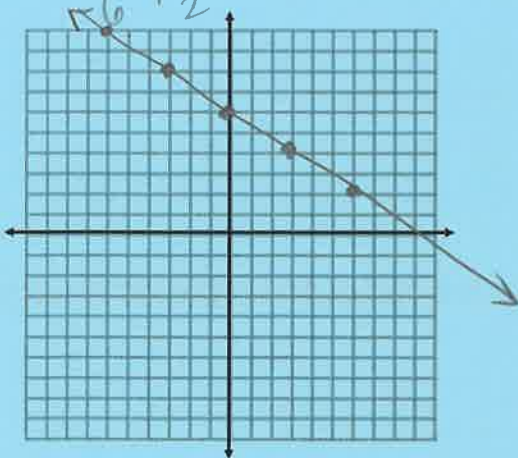
7. $\left(y = \frac{2}{5}x + \frac{1}{2}\right)_{10}$
 $10y = 4x + 5$ yes
 $4x - 10y = -5$

8. $2x + 3y = 5$
 yes

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

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

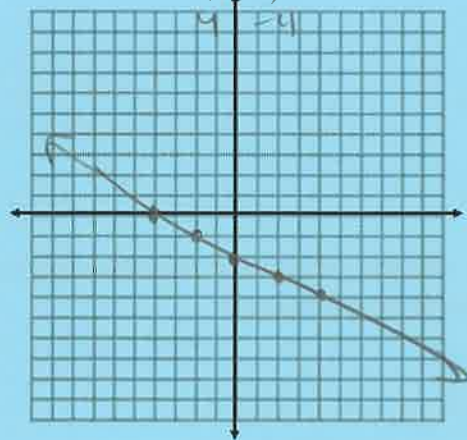
x	y
-6	10
-3	8
0	6
3	4
6	2



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: $(8, 0)$

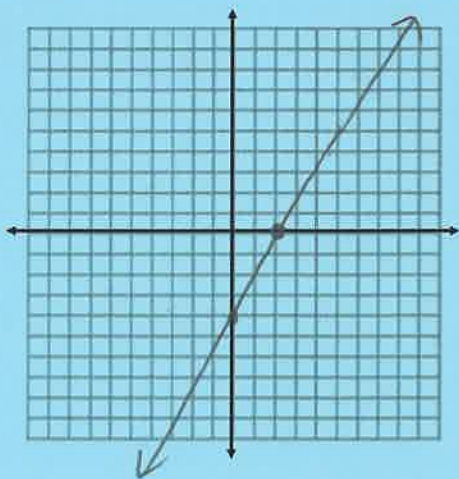
y: $(0, -4)$

Use intercepts to graph the line described by the given equation

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

$x = 2$

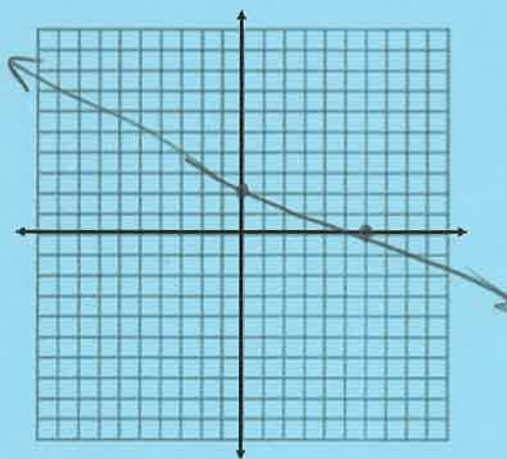
$y = -4$



16. $x + 3y = 6$

$x = 6$

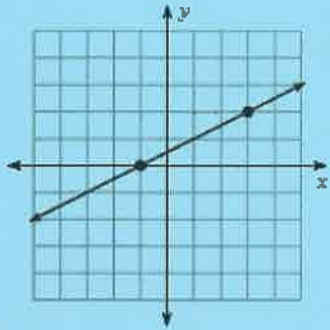
$y = 2$



Things to know from Section 4.3

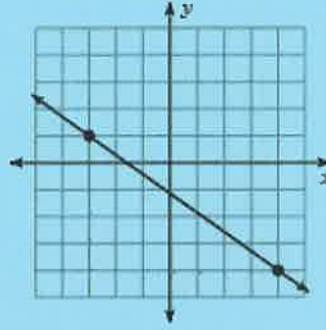
- Find the slope given the following:
 - Graph
 - Table
- Describe the slope
 - Positive, negative, zero, or undefined

Find the slope.



$\frac{1}{2}$

17.



$-\frac{5}{7}$

18.

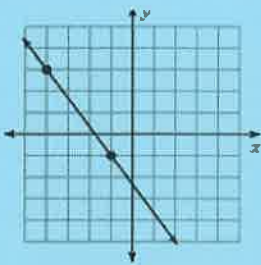
x	-2	1	4	7
y	0	-2	-4	-6



$\frac{-3}{2}$

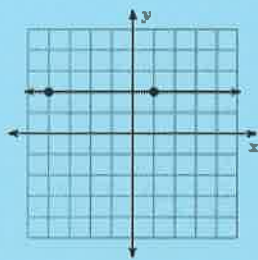
19.

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



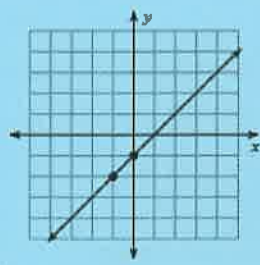
20.

neg.



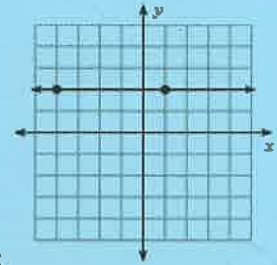
21.

zero



22.

pos.



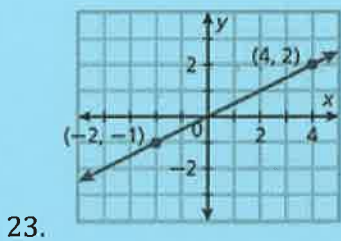
23.

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.

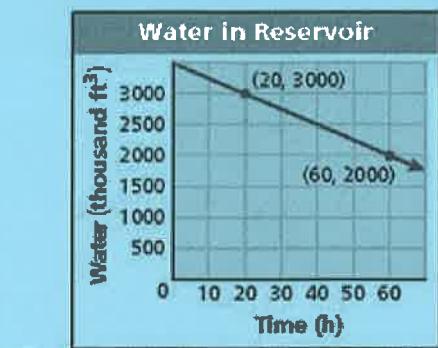
x	y
0	25
2	45
4	65
6	85

$$10$$

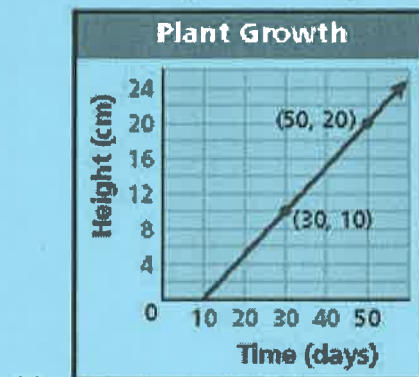
26. (2, 3) and (-3, 8)

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

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



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



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