

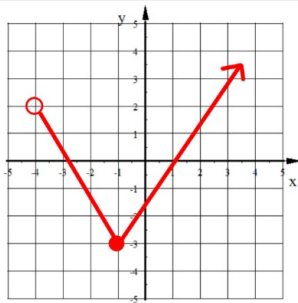
1. a)

X	Y
-4	9
4	-1
7	4
11	9

Function?

yes

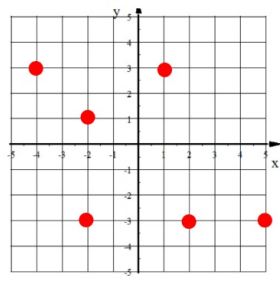
1. b)



Function?

yes

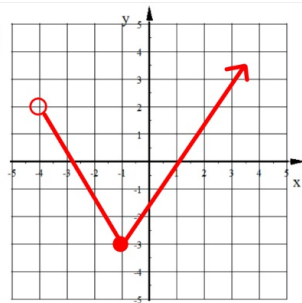
1. c)



Function?

No.

2. a)



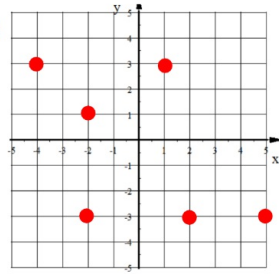
Domain:

$$x > -4 \quad (-4, \infty)$$

Range:

$$y \geq -3 \quad [-3, \infty)$$

2. b)



Domain:

$\{-4, -2, 1, 2, 5\}$

Range:

$\{-3, 1, 3\}$

How do you say  $f(x)$ ?

"f of x"

**f** is the function name

**x** is the Independent variable (the input)

$f(x)$  does **NOT** mean f times x

$f(x) =$  is just another way to write  $y =$

3. Use these two functions:

$$f(x) = -2x^2 + 10 \quad g(w) = 10 - 3w$$

a) Find  $f(-3)$       $f(-3) = -2(-3)^2 + 10$   
 $= -8$

3. Use these two functions:

$$f(x) = -2x^2 + 10 \quad g(w) = 10 - 3w$$

b) Find  $w$  when  $g(w) = 22$

$$22 = 10 - 3w$$

$$12 = -3w$$

$$w = -4$$

3. Use these two functions:

$$f(x) = -2x^2 + 10 \quad g(w) = 10 - 3w$$

c) Find  $3f(2) - 5g(1)$

$$f(2) = -2(2)^2 + 10$$

$$= 2$$

$$g(1) = 10 - 3(1)$$

$$= 10 - 3 = 7$$

$$3(2) - 5(7) = 6 - 35 = -29$$

Functions in Algebra 1:

Linear Functions:

$$\text{EQ: } y = mx + b$$

Graph: Line

Absolute Value Functions:

$$\text{EQ: } y = a|x - h| + k$$

Graph: V-Shape

Quadratic Functions:

$$\text{EQ: } y = ax^2 + bx + c$$

or

$$y = a(x - h)^2 + k$$

Graph: Parabola

## Sec. 5-3: Graphing Linear Functions

Slope-Intercept Form:

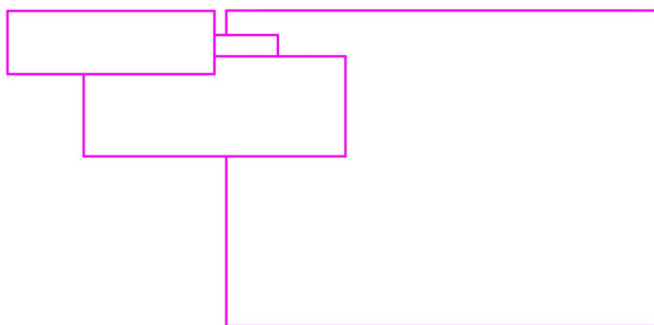
$$y = mx + b$$

Diagram illustrating the components of the Slope-Intercept Form equation  $y = mx + b$ :

- $m$  is labeled as **slope**, with the definition  $\text{slope} = \frac{\text{rise}}{\text{run}}$ .
- $b$  is labeled as **y-intercept**.

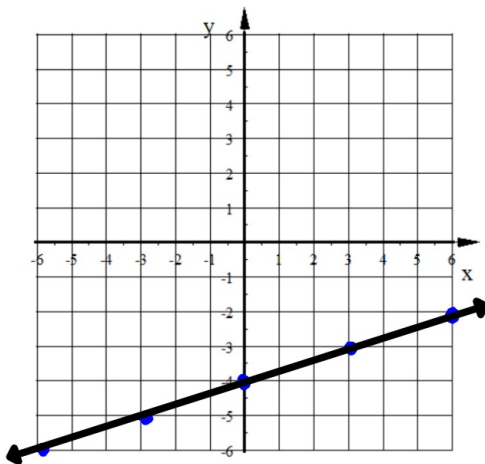
Steps to graph this eq:

1. Plot the y-int.
2. Use the slope to find more points.



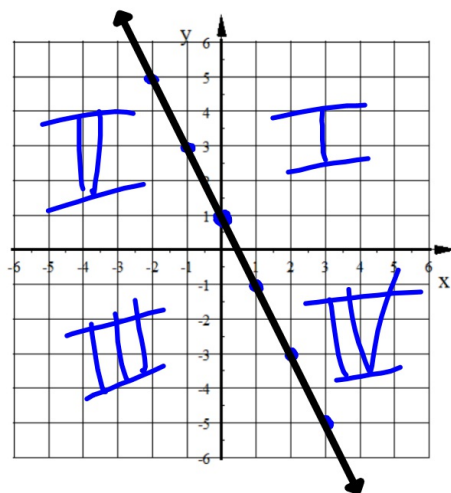
Graph this line with at least 3 points.

$$f(x) = \frac{1}{3}x - 4$$



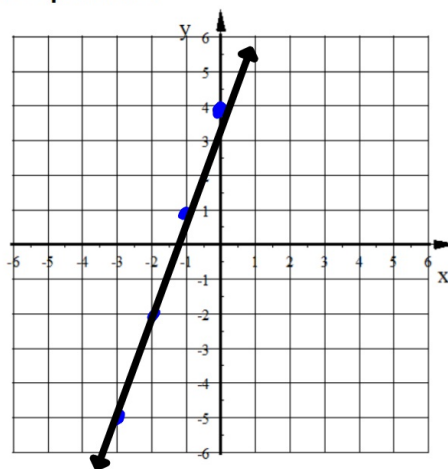
Graph this line with at least 3 points.

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



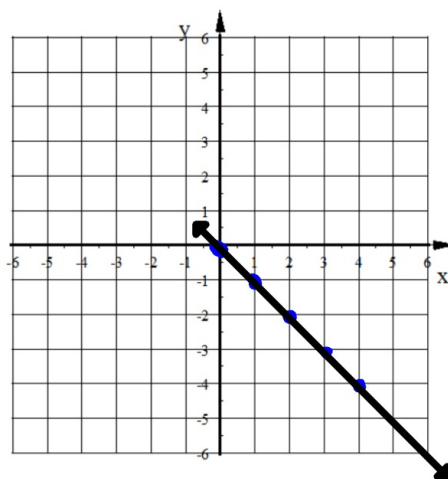
Graph this line with at least 3 points.

$$y = \frac{3x}{1} + 4$$



Graph this line with at least 3 points.

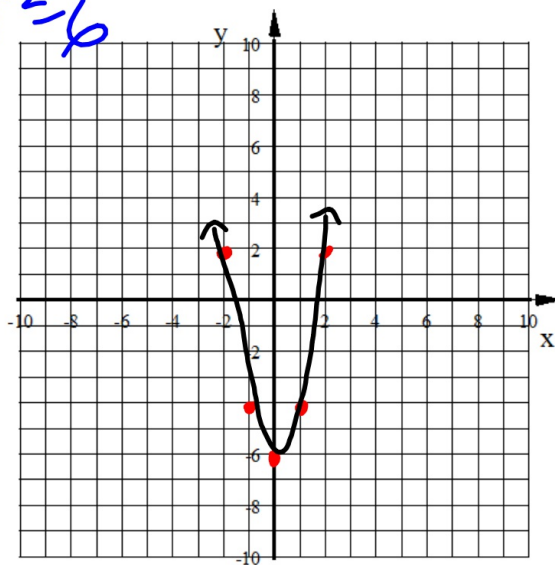
$$y = -x$$
$$\frac{-1}{1}$$



Graph this function, use at least 5 points.

$$y = 2x^2 - 6$$
$$2(-2)^2 = 6$$

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

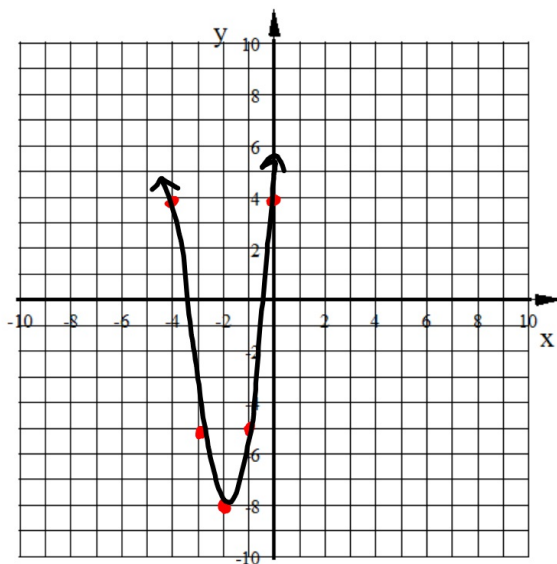




Graph this function, use at least 5 points.

$$y = 3x^2 + 12x + 4$$

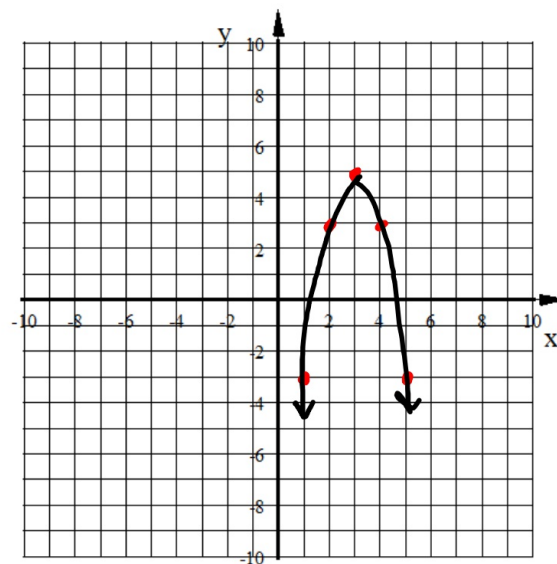
X	y
0	4
-1	-5
-2	-8
-3	-5
-4	4



Graph this function, use at least 5 points.

$$y = -2(x - 3)^2 + 5$$

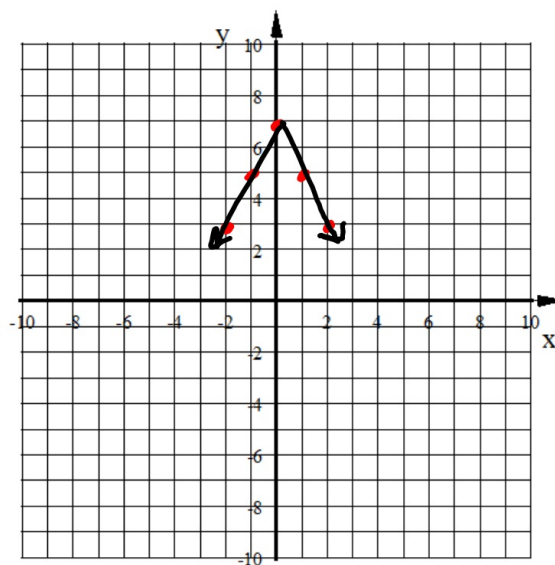
X	y
1	-3
2	3
3	5
4	3
5	-3



Graph this function, use at least 5 points.

$$f(x) = -2|x| + 7$$

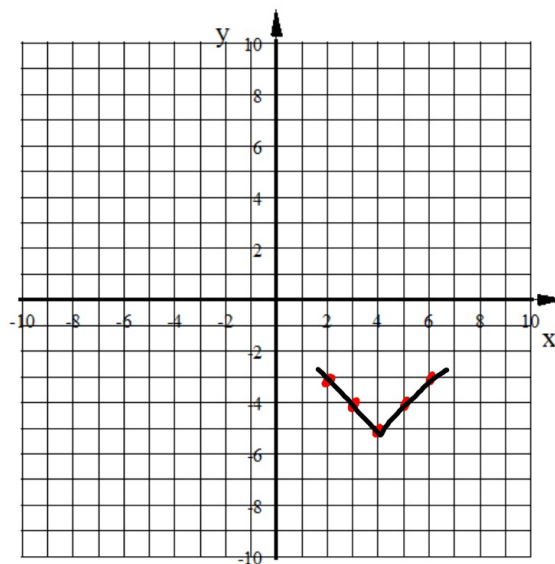
x	y
-2	3
-1	5
0	7
1	5
2	3



Graph this function, use at least 5 points.

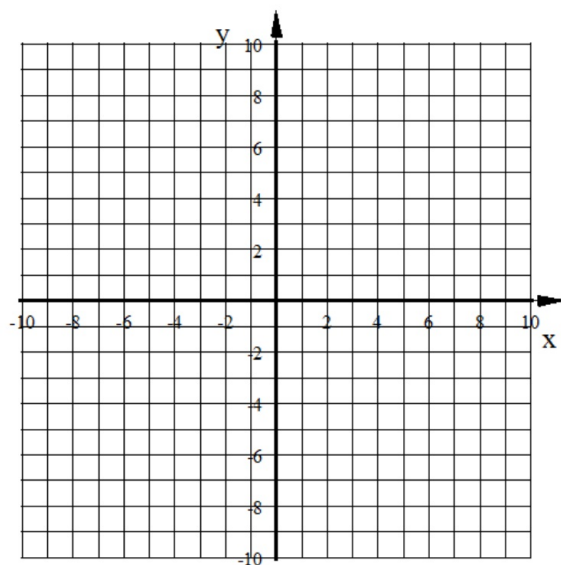
$$y = |x - 4| - 5$$

x	y
2	-3
3	-4
4	-5
5	-4
6	-3



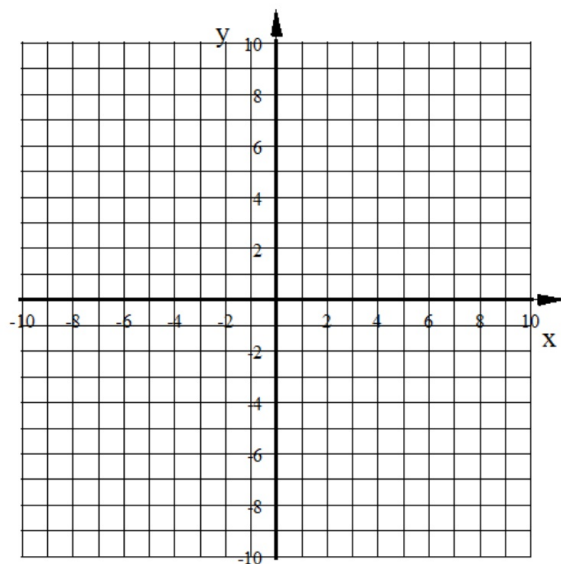
Graph this function, use at least 5 points.

$$y = \frac{1}{2}|x + 1| + 3$$



Graph this function, use at least 5 points.

$$y = -3|x - 3| + 8$$



You can now finish Hwk #30

Sec 5-3

Use the practice worksheet I printed for you.

Pages 249-250

Problems 6, 7, 18, 19, 21, 23, 27, 37

**IXL #11 - Q.1 & Q.2 due Friday at 4pm!**