

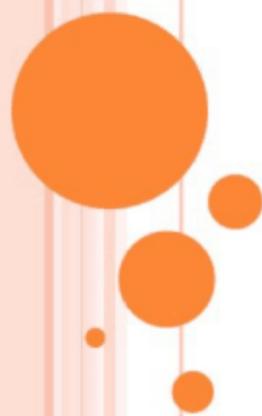
WARMUP

o $y = 3x + 5$

Input X	Output Y	Work
-2	-1	$3(-2) + 5$
-1	2	$3(-1) + 5$
0	5	$3(0) + 5$
1	8	$3(1) + 5$
2	11	$3(2) + 5$



GRAPHING LINEAR EQUATIONS



Chapter 4
Section 2

SOLUTIONS WITH 2 VARIABLES

- To determine if an ordered pair is a solution to an equation, plug the ordered pair into the equation and simplify.
- If the left side equals the right side, it is a solution.
- If the left side does not equal the right side, it is not a solution.



EXAMPLES

- $y = -2x + 5$

- $(3, 0)$

x, y

$$0 = -2(3) + 5$$

$$0 = -6 + 5$$

- $(2, 1)$

x, y

$$0 \neq 1$$

No

$$l = -2(2) + 5$$

$$l = -4 + 5$$

$$l = l \quad \checkmark \text{ Yes}$$

- $(6, 7)$

x, y

$$7 = -2(6) + 5$$

$$7 = -12 + 5$$

$$7 \neq -7 \quad \text{No}$$



GRAPHING LINEAR EQUATIONS

○ Steps to Graphing Linear Equations:

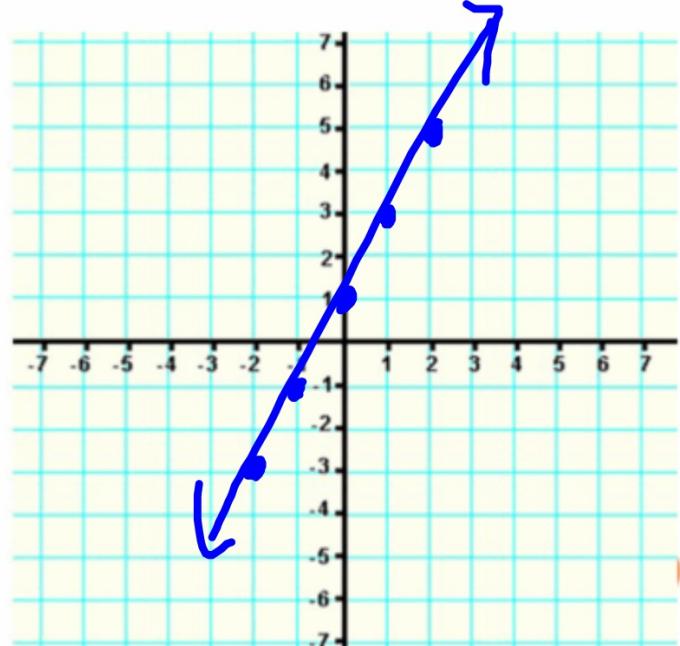
- 1. Rewrite the equation in function form (solve for y)
- 2. Draw an x-y table
- 3. Find what y is when $x = -2, -1, 0, 1, 2$
- 4. Rewrite the x and y values into ordered pairs
- 5. Plot the ordered pairs on the graph



GRAPHING LINEAR EQUATIONS: EXAMPLE

$$y=2x+1$$

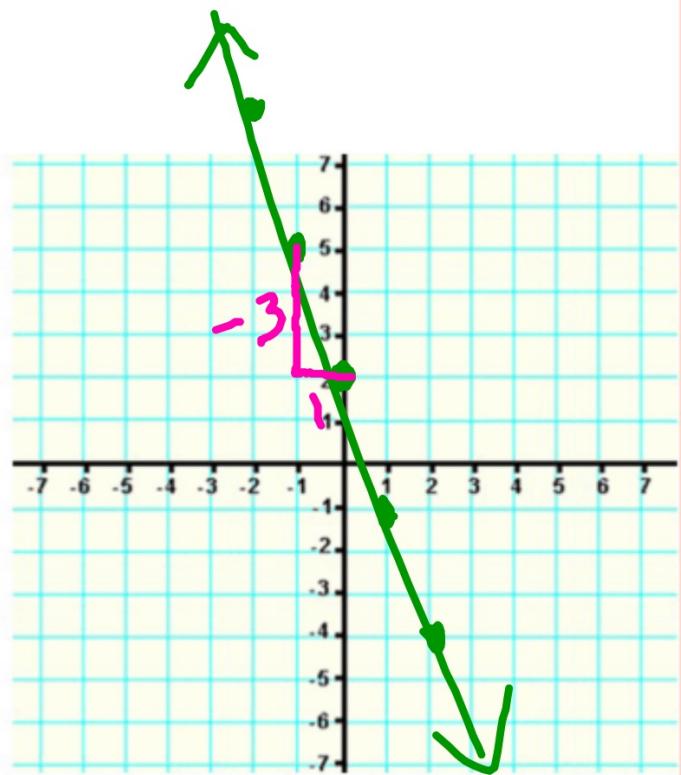
Input X	Output Y	Work
-2	-3	$2(-2)+1$
-1	-1	$2(-1)+1$
0	1	$2(0)+1$
1	3	$2(1)+1$
2	5	$2(2)+1$



GRAPHING LINEAR EQUATIONS: EXAMPLE

$$y = -3x + 2$$

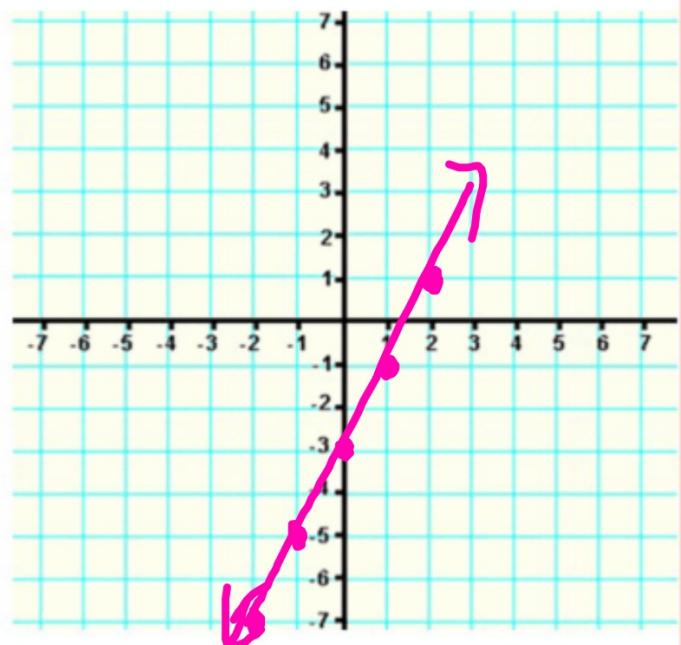
Input X	Output Y	Work
-2	8	$-3(-2) + 2$
-1	5	$-3(-1) + 2$
0	2	$-3(0) + 2$
1	-1	$-3(1) + 2$
2	-4	$-3(2) + 2$



GRAPHING LINEAR EQUATIONS: EXAMPLE

$$-8x + 4y = -12$$

Input X	Output Y	Work
-2	-7	$2(-2) - 3$
-1	-5	$2(-1) - 3$
0	-3	$2(0) - 3$
1	-1	$2(1) - 3$
2	1	$2(2) - 3$

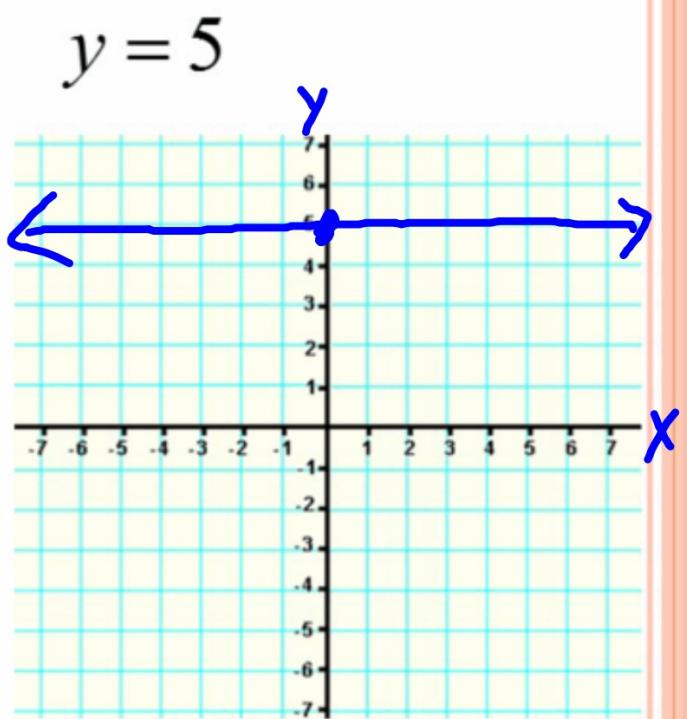
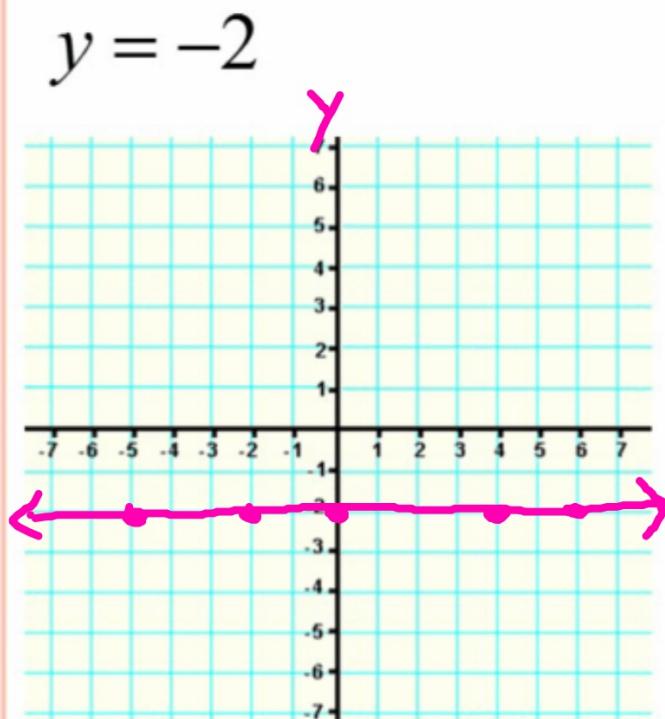


HORIZONTAL LINES

- An equation is a horizontal line if it does not have an x variable. (only has a y variable)
- Example:
 - $y=2$
 - $y=-1$
 - $y=5$
 - $y=0$



HORIZONTAL LINES



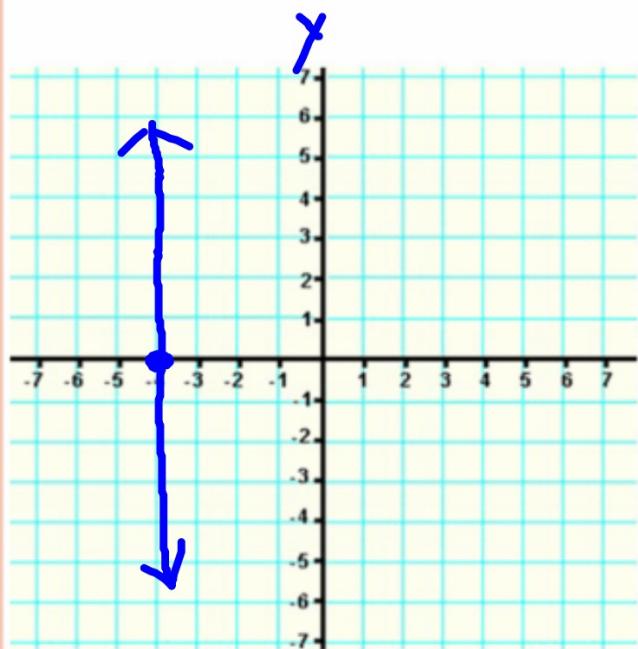
VERTICAL LINES

- An equation is a vertical line if it does not have a y variable (only has an x variable)
- Example:
 - $x=2$
 - $x=-1$
 - $x=5$
 - $x=0$

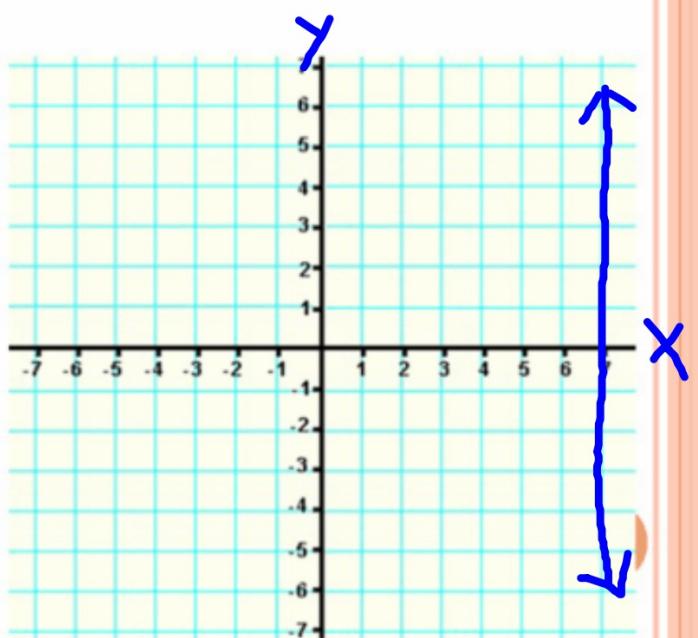


VERTICAL LINES

$$x = -4$$



$$x = 7$$



CLASS WORK

Blue book: pg 119 # 1-15

Blue Book: pg 121 # 1-6

5) $8 = 2 - 3(-2)$ 8) $-6 = -\frac{2}{3} - 2$

$8 = 8 \checkmark$ $-6 \neq -2.666666666$

6) $-3 = 2 - 3(-3)$

$-3 \neq 11$

7) $-4 = -\frac{3}{3} - 2$

$-4 = -1 - 2$

$-4 \neq -3$

HOMEWORK

- Page 214-215 # 15-20, 36,37,40,41

