

Notes 2-3

Int 2

Horizontal/Vertical Lines & T-Charts

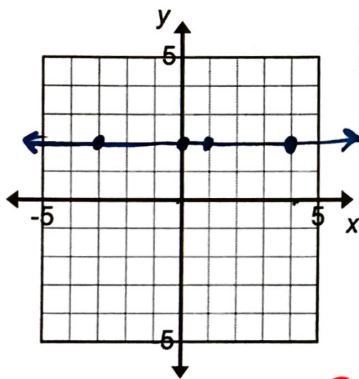
Unit 2

1. You want to graph the line  $y = 2$ . This means that the y-coordinate is 2 in every point on the line. Write 3 points that have 2 for the y-coordinate, and fill in the table.

$(4, 2)$   $(0, 2)$   $(-3, 2)$

x	y
4	2
0	2
-3	2
1	2

Now plot the points.



The slope of the line is 0.

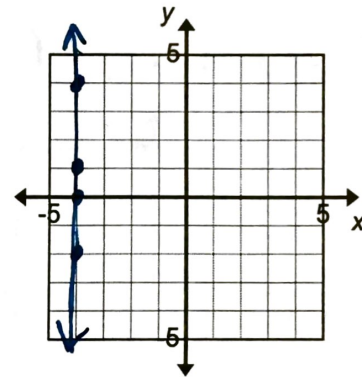
The line is horizontal / vertical. (circle one)

2. You want to graph the line  $x = -4$ . This means that the x-coordinate is -4 in every point on the line. Write 3 points that have -4 for the x-coordinate.

$(-4, 1)$   $(-4, -2)$   $(-4, 4)$

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

Now plot the points.



The slope of the line is undefined.

The line is horizontal / vertical. (circle one)

Write 3 points that will be on the line, and then graph the line from the points.

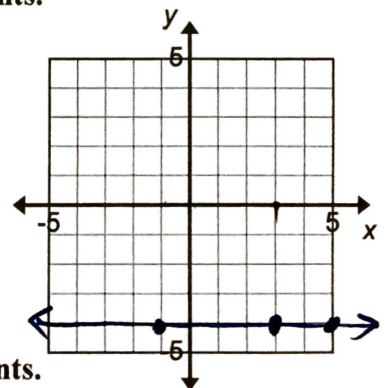
3.  $y = -4$

$(3, -4)$   $(5, -4)$   $(-1, -4)$

The slope of the line is 0.

The line is horizontal / vertical. (circle one)

Write 3 points that will be on the line, and then graph the line from the points.



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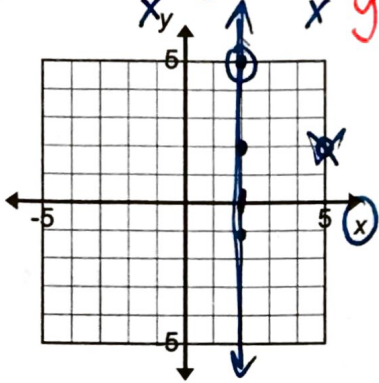
Horizontal/Vertical Lines & T-Charts

Unit 2

Write 3 points that will be on the line, and then graph the line from the points.

4.  $x = 2$

$(2, -1)$   $(2, 2)$   $(2, 5)$   
 $x$   $x$   $x$   $y$   $y$   $y$



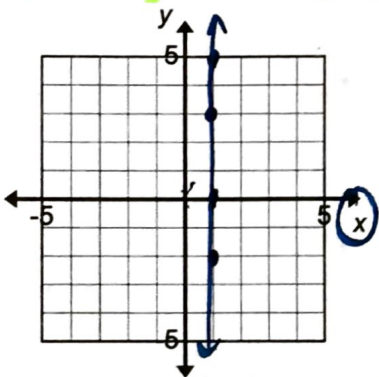
The slope of the line is undefined.

The line is horizontal / vertical (circle one)

Slope:  $\frac{y \text{ rise}}{x \text{ run}}$  point  $(x, y)$   
 $\downarrow$   $\downarrow$   
run jump

5.  $x = 1$

$(1, 3)$   $(1, -2)$   $(1, 5)$

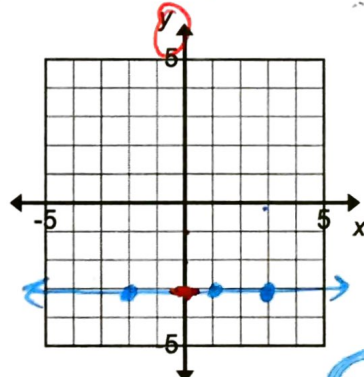


The slope of the line is undefined.

The line is horizontal / vertical (circle one)

6.  $y = -3$

$(3, -3)$   $(-2, -3)$   $(1, -3)$



The slope of the line is 0.

The line is horizontal / vertical. (circle one)

Make a conjecture!

Look at all of the  $x =$  equations. Do you notice a pattern? If so, what is it?

vertical, slope = undefined.  $x = \#$  hits x axis @ that #

Look at all of the  $y =$  equations. Do you notice a pattern? If so, what is it?

horiz., slope = 0  $y = \#$  hits y axis @ that #

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Unit 2

HORIZONTAL LINES:

$$y = \#$$



VERTICAL LINES:

$$x = \#$$

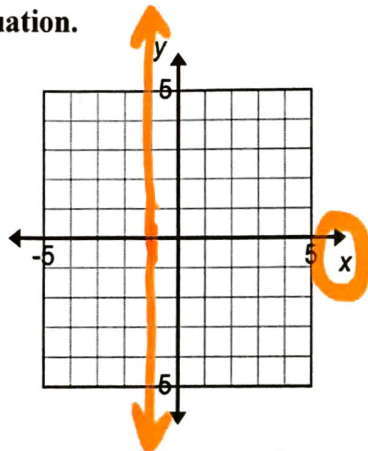


Now that you know the pattern, you can use it as a shortcut.

Graph each equation.

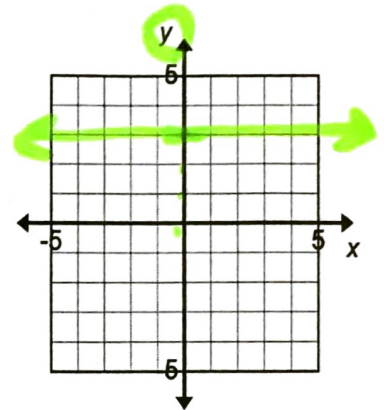
7.

$$x = -1$$



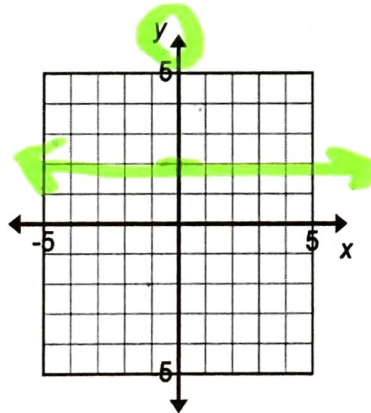
8.

$$y = 3$$



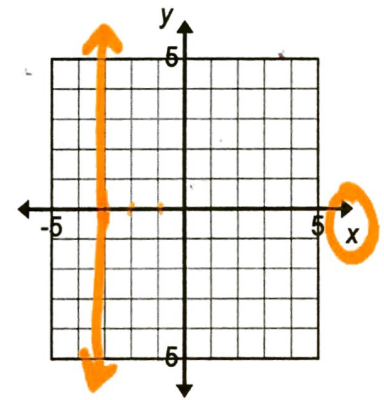
9.

$$y = 2$$



10.

$$x = -3$$



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## Int 2

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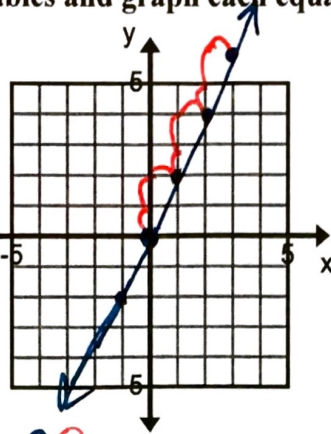
## Unit 2

Create the following tables and graph each equation. Identify the slope for each equation.

11.  $y = 2x$

x	y
-1	-2
0	0
1	2
2	4
3	6

$2(-1)$   
 $2(0)$   
 $2(1)$   
 $2(2)y = 2x$   
 $2(3)y = 2(-1)$

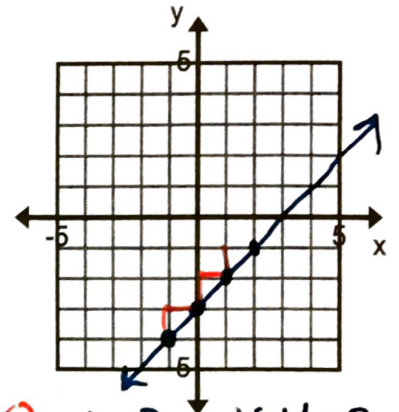


Slope =  $\frac{2}{1} = 2$  (rise over run)

plot points run then jump

13.  $x - y = 3$

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



Slope =  $\frac{1}{1} = 1$  (rise over run)

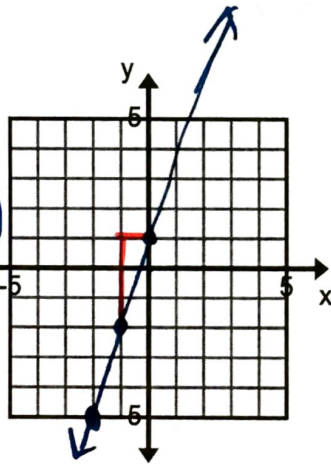
$$\begin{aligned} x - y &= 3 \\ -1 - y &= 3 \\ +1 & \quad +1 \\ -y &= 4 \\ y &= -4 \end{aligned}$$

$$\begin{aligned} x - y &= 3 \\ -1 - y &= 3 \\ +1 & \quad -1 \\ -y &= 2 \\ y &= -2 \end{aligned}$$

12.  $y = 3x + 1$

x	y
-2	$3(-2) + 1 = -5$
-1	-2
0	1
1	
2	

$-5$



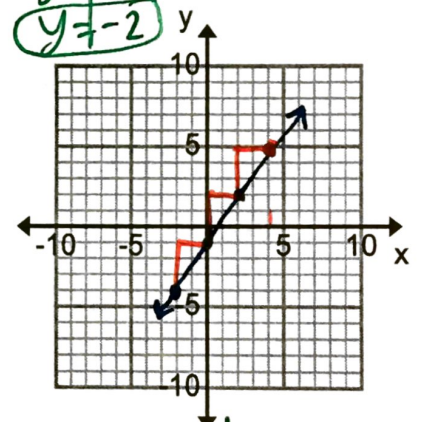
Slope =  $\frac{3}{1} = 3$  (rise over run)

rise over run

$$\begin{aligned} 3(-1) + 1 &= -2 \\ -3 + 1 &= -2 \\ y &= 3x + 1 \\ y &= 3(0) + 1 \\ &= 0 + 1 \end{aligned}$$

14.  $y = \frac{3}{2}x - 1$

x	y
-2	-4
0	-1
2	2
4	5



Slope =  $\frac{3}{2}$

$$\begin{aligned} y &= \frac{3}{2} \left( \frac{-2}{1} \right) - 1 \\ -3 - 1 &= -4 \\ y &= \frac{3}{2} (0) - 1 \\ 0 - 1 &= -1 \\ y &= \frac{3}{2} \left( \frac{2}{1} \right) - 1 \\ 3 - 1 &= 2 \end{aligned}$$