

Guided Notes: Slope & Slope-Intercept Form.

Date _____ Period _____

The Slope of a Line

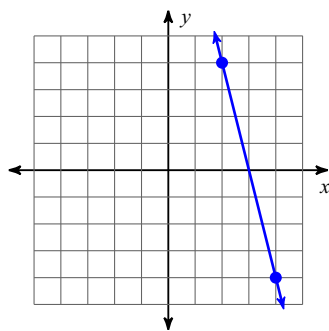
- 1) The slope of a line indicates the rate of change of a linear function as the independent variable (x) increases by one.

It is typically described as the vertical change divided by the horizontal change.

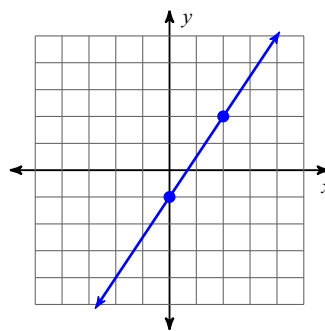
This is often known as $\frac{RISE}{RUN}$.

Find the slope of each line.

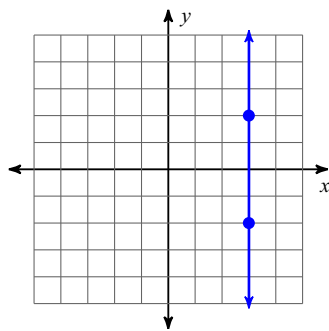
2)



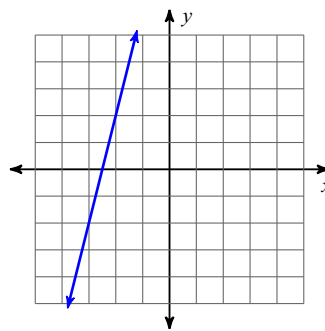
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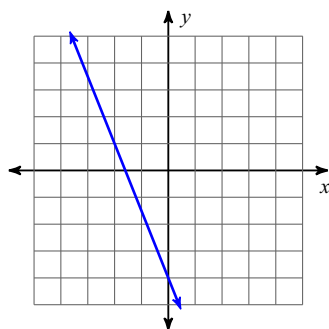
4)



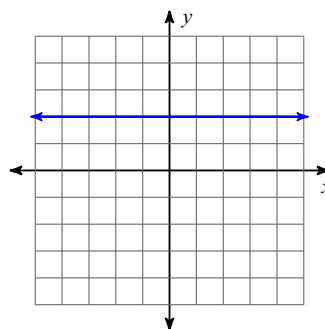
5)



6)



7)

**Finding Slope with Two Points**

- 8) We can also find the slope (we use the variable m to represent slope) of a line if we are given any two points on the line.

If the two points are (x_1, y_1) and (x_2, y_2) , then the slope is found using the formula

$$\text{slope } m = \frac{y_2 - y_1}{x_2 - x_1}$$

Find the slope of the line through each pair of points.

9) $(19, 5), (-19, -1)$

10) $(8, -14), (15, -14)$

11) $(14, 3), (14, 19)$

12) $(-16, 6), (7, -13)$

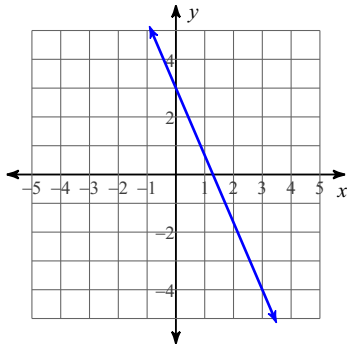
Equations of a Line in Slope-Intercept Form

13) We can write the equation of a line just by knowing its y-intercept, and its slope. We call this "Slope-Intercept Form."

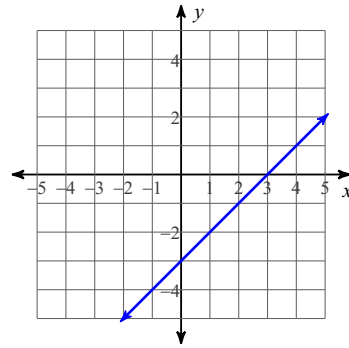
Slope-Intercept form is $y = mx + b$ where the m represents the slope of our line, and the b represents the y-intercept of the line.

Write the slope-intercept form of the equation of each line.

14)



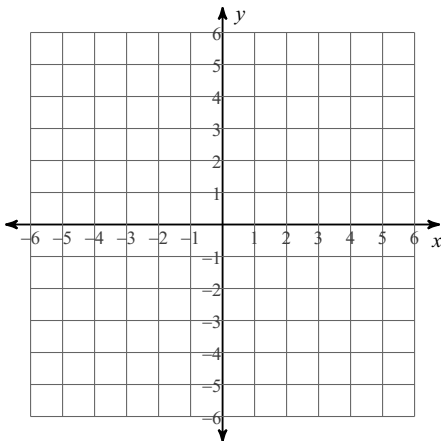
15)



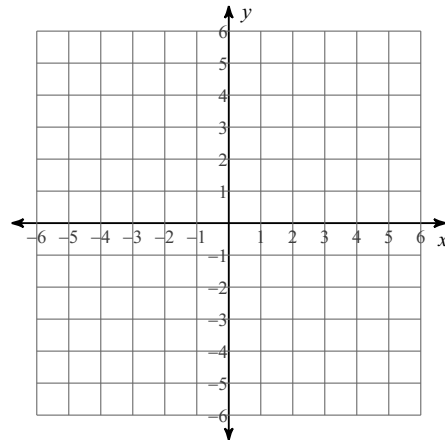
16) For extra practice, go back and try to write the equations for problems 2-7. (Hint, one of them is not a function, and can't be written in slope-intercept form.)

Sketch the graph of each line.

17) $y = -2x - 1$



18) $y = \frac{7}{4}x - 4$



Guided Notes: Slope & Slope-Intercept Form.

The Slope of a Line

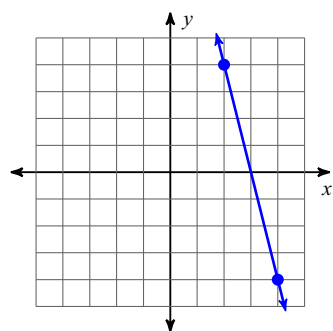
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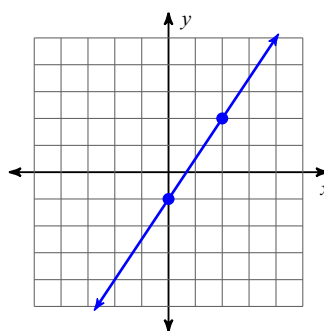
Find the slope of each line.

2)



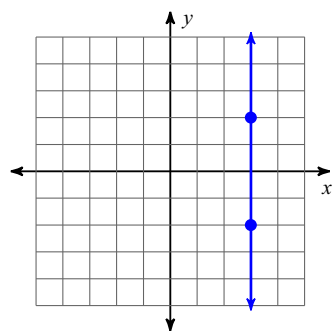
-4

3)



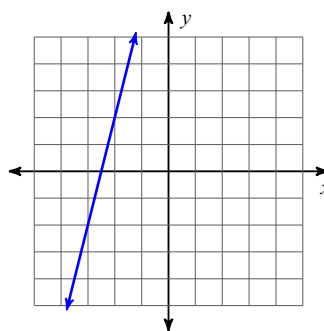
$\frac{3}{2}$

4)



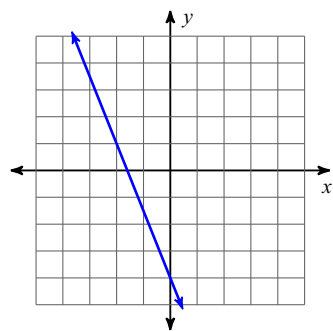
Undefined

5)



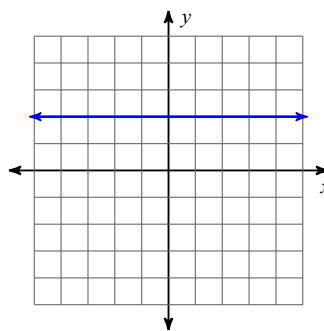
4

6)



$-\frac{5}{2}$

7)



0

Finding Slope with Two Points

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If the two points are (x_1, y_1) and (x_2, y_2) , then the slope is found using the formula

$$\text{slope } m = \frac{y_2 - y_1}{x_2 - x_1}$$

Find the slope of the line through each pair of points.

9) $(19, 5), (-19, -1)$ $\frac{3}{19}$

10) $(8, -14), (15, -14)$
0

11) $(14, 3), (14, 19)$
Undefined

12) $(-16, 6), (7, -13)$ $-\frac{19}{23}$

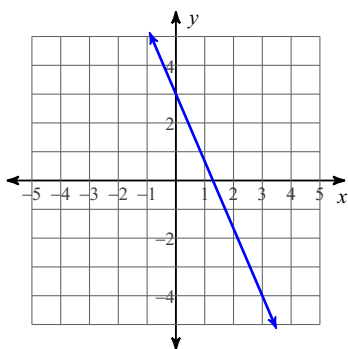
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Slope-Intercept form is $y = mx + b$ where the m represents the slope of our line, and the b represents the y-intercept of the line.

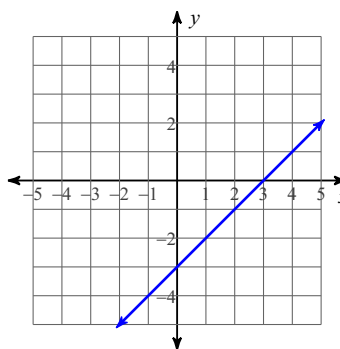
Write the slope-intercept form of the equation of each line.

14)



$y = -\frac{7}{3}x + 3$

15)

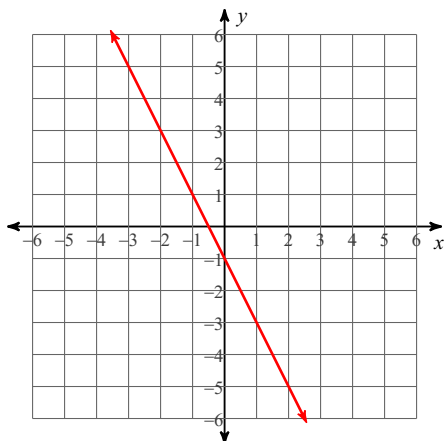


$y = x - 3$

16) For extra practice, go back and try to write the equations for problems 2-7. (Hint, one of them is not a function, and can't be written in slope-intercept form.)

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