

Warm up

Are the lines parallel, $\frac{1}{5}$ $\frac{5}{1}$ perpendicular or neither?

1) $y = 2x + 4$

$y = 2x - 15$

Parallel

2) $y = \frac{1}{5}x + 4$

$y = -5x + 4$

Perpendicular

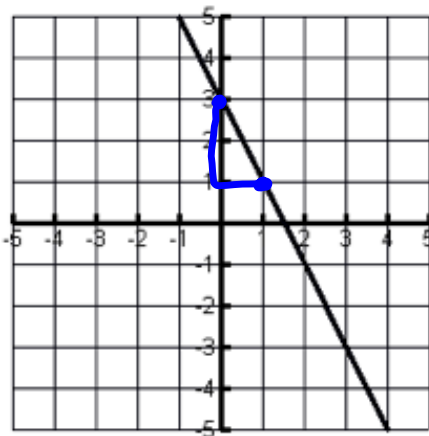
3) $y = 7x + 3$

$y = 3x + 2$

Neither

Find the slope from the following graph

1.



$$y = mx + b$$
$$y = -\frac{2}{1}x + 3$$

3. What is the definition of slope?

Slope is..... rate of Change
of $\frac{\text{rise}}{\text{run}}$
 $\frac{y}{x}$ $\frac{y_2 - y_1}{x_2 - x_1}$

4. What is the slope of a Horizontal Line?



Find the slope and y-intercept from the following table

5.

x	y
-6	2
0	4
6	6
12	8

6 <

> 2

$$\rightarrow \frac{2}{6} = \frac{1}{3}$$

Find the slope from the following points

7. $(1, 4)$ and $(0, 4)$

$$\frac{y-y}{x-x} \quad \frac{4-4}{0-1} = \frac{0}{-1} = 0$$

9. What is the slope of a vertical line?



Undefined

Given the slope and y-intercept write an equation in slope intercept form

10. $m = \underline{-2}$ $b = \underline{4}$

$$y = -2x + 4$$

Given the slope and y-intercept write an equation in slope intercept form

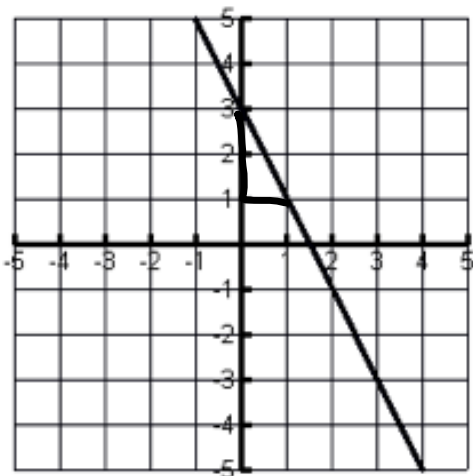
$$11. m = -1/3 \quad b = 5$$

$$y = -\frac{1}{3}x + 5$$

12. What type of slope do parallel lines have? *The same*

Write an equation in slope-intercept form for the following graph

16.



$$y = -\frac{2}{1} + 3$$

Write the parallel slope for the following:

20. $m = -5$
 $y = -5x + 2$

$m = 2/3$
 $y = \frac{2}{3}x + 4$

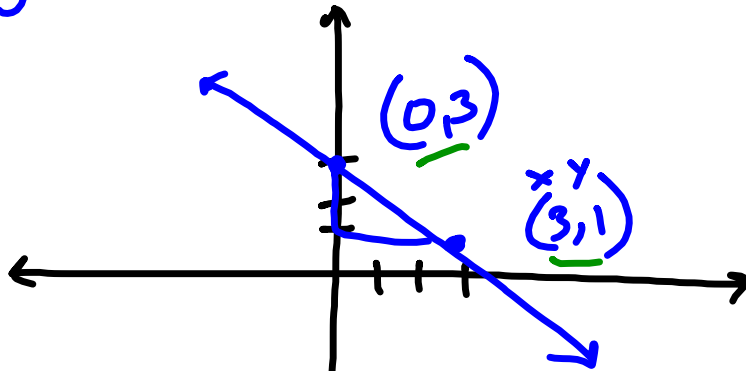
Write the perpendicular slope for the following:

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

$m = -1/5$ $y = 5x + 2$

26. The y-intercept is always
where $x = \underline{\hspace{2cm}}$

$$y - y_1 = m(x - x_1)$$



$$y - 1 = -\frac{2}{3}(x - 3)$$

$$y - 3 = -\frac{2}{3}(x - 0)$$

$$\frac{y - 1}{x - 3} = \frac{3 - 1}{0 - 3}$$