

Homework Questions-

③ $y = x$

$m = 1$

①

④ $y = 6$

$m = 0$

②

②② $y = -\frac{x}{5} - 7$

$y = -\frac{1}{5}x - 7$

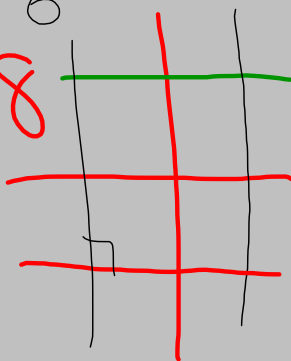
$m = -\frac{1}{5}$

$\perp m = 5$

$m = 0 \perp m = \frac{1}{0}$

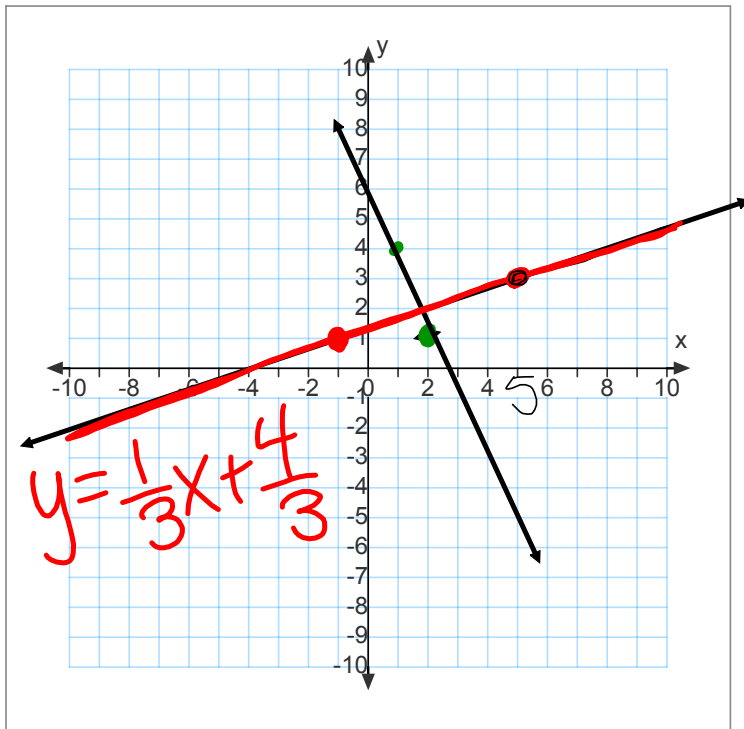
$y = \text{---} - 8$

und



$y = \frac{2}{3}x - 6$

$y = \frac{2}{3}x + 6$



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

$$y = mx + b$$

$$3 = \frac{1}{3}(5) + b$$

$$3 = \frac{5}{3} + b$$

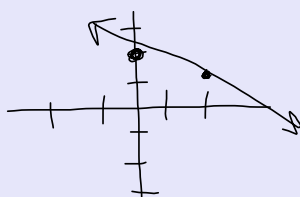
$$\frac{4}{3} = b$$

$$\frac{3}{3} + \frac{5}{3} = \frac{4}{3}$$

$$\textcircled{36} \quad y = \frac{x}{3} - 4 \quad m = 3$$

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

Homework Quiz Today-



Find the **equation** in slope intercept form of the line that has a slope of $-1/2$ and goes through the point $(6, -1)$. Then **graph** the line.

$$y = mx + b$$

$$-1 = -\frac{1}{2}(6) + b$$

$$-1 = -3 + b$$

$$\begin{array}{r} +3 \quad +3 \\ \hline 2 = b \end{array}$$

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

Find the **slope** of the line that goes through the points $(-2, 6)$ and

② $(3, -5)$.

①

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-5 - 6}{3 - (-2)} = \frac{-11}{5} = -\frac{11}{5}$$

Warm Up-

What is true about the slope of two lines if they are parallel?

They are equal

What is true about the slope of two lines if they are perpendicular to each other?

opposite reciprocals

Use the equation $4x+2y=8$ to find the answer to the following questions.

1. Find the slope of the line parallel to the line

$$\boxed{-2}$$

2. Find the slope of the line perpendicular to the line

$$4x + 2y = 8 \quad \boxed{\frac{1}{2}}$$

$$\begin{array}{r} -4x \qquad \qquad -4x \\ \hline \end{array}$$

$$\begin{array}{r} 2y = 8 - 4x \\ \frac{2y}{2} = \frac{8}{2} - \frac{4x}{2} \\ y = 4 - 2x \end{array}$$

$$y = 4 - 2x$$

Find the equation in slope intercept form of the line that is parallel to the line $5x + 10y = 20$ and goes through the point $(-2, 5)$.

Steps-

1. Find the slope of the line

given

$$\boxed{-\frac{1}{2}}$$

2. Use the slope and the point

to plug into $y = mx + b$

3. Solve for b

$$b = 4$$

4. Rewrite the equation in

slope intercept form

$$5x + 10y = 20$$

$$10y = 20 - 5x$$

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

$$5 = -\frac{1}{2}(-2) + b$$

$$5 = 1 + b \quad b = 4$$

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

Find the equation in slope intercept form of the line that is perpendicular to the line $3x - 9y = 9$ and goes through the point $(-6, -2)$.

Steps-

1. Find the slope of the line given $m = \frac{1}{3}$
2. Find the new slope using opposite reciprocal property
3. Use the new slope and the point to plug into $y = mx + b$
4. Solve for b
5. Rewrite the equation in slope intercept form

$$y = -3x - 20$$

$$3x - 9y = 9$$

$$-9y = 9 - 3x$$

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

$$m = -3$$

$$(-6, -2)$$

$$y = mx + b$$

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

$$-2 = 18 + b$$

$$-18 \quad -18$$

$$\hline -20 = b$$

Assignment-

Work on Pg. 51 in your workbook. You are going to be working with a partner that I will give you. If you do not have a workbook, please do your work and box your answers on a separate piece of paper.

This assignment is due by the end of class for a 4 point HW grade. If you finish you may start your homework for the night which is:

Pg. 346 13-15, 25-28

Due Fri Jan 13 (tomorrow)