

ex 6 $x + 2y = 5$

x	y
0	$2\frac{1}{2}$
<u>5</u>	0
2	<u>$1\frac{1}{2}$</u>
<u>1</u>	2

$$0 + 2y = 5$$

$$\frac{2y}{2} = \frac{5}{2}$$

$$y = \frac{5}{2} \text{ or } 2\frac{1}{2}$$

$$x + \cancel{2 \cdot 0} = 5$$

$$x = 5$$

$$2 + 2y = 5$$

$$\begin{array}{r} -2 \\ -2 \end{array} \quad \begin{array}{r} -2 \\ -2 \end{array}$$

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

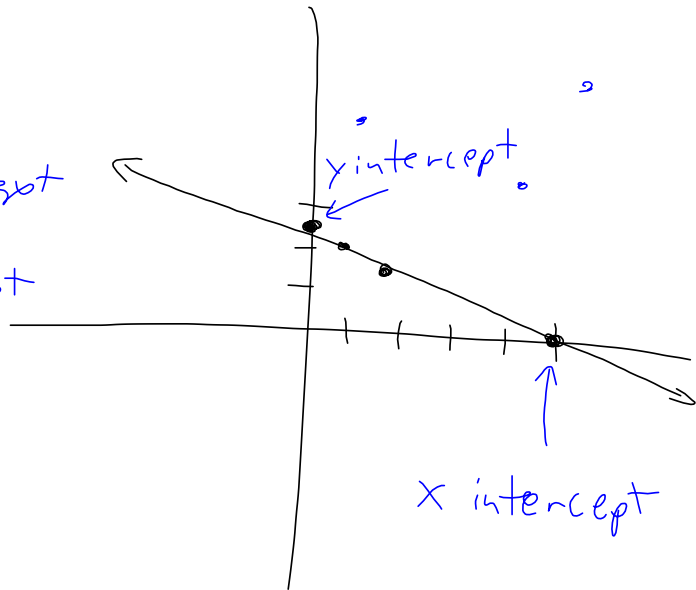
$$y = \frac{3}{2} \text{ or } 1\frac{1}{2}$$

$$x + 2 \cdot 2 = 5$$

$$x + 4 = 5$$

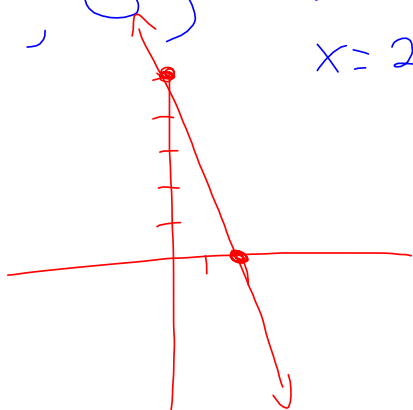
$$x = 1$$

x	y
0	$2\frac{1}{2}$ y intercept
<u>5</u>	0 x intercept
2	$1\frac{1}{2}$
1	2



ex 10 $5x + 2y = 10$

x int
put 0 in for y
 $(\underline{2}, 0)$ $\frac{5x}{5} = \frac{10}{5}$
 $x = 2$



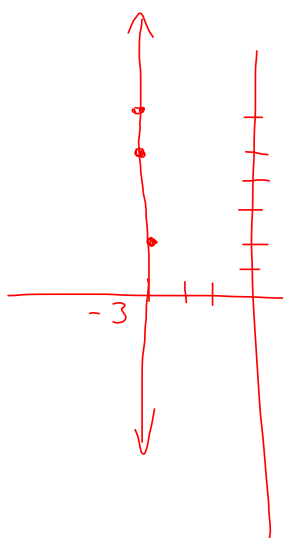
y int
put 0 in for x
 $(0, \underline{5})$
 $\frac{2y}{2} = \frac{10}{2}$
 $y = 5$

ex 18 $x = -3$

x	y
-3	2
-3	5
-3	6

x int
 $(-3, 0)$

no y int.

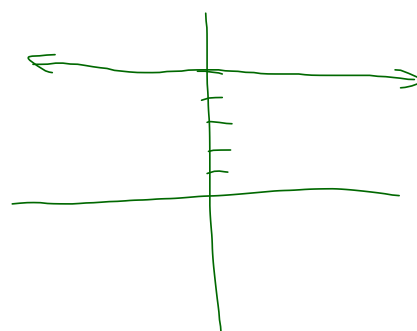


ex 22 $y - 5 = 0$

$$y = 5$$

y int $(0, 5)$

no x int.



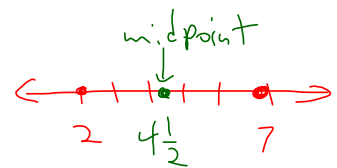
ex 28 $(5, 2)$ & $(-1, 8)$

Midpoint $\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$

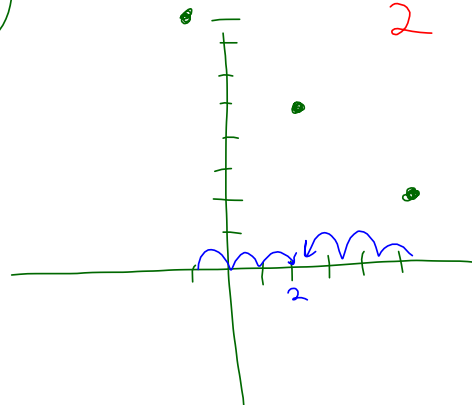
$$\left(\frac{5 + (-1)}{2}, \frac{2 + 8}{2} \right)$$

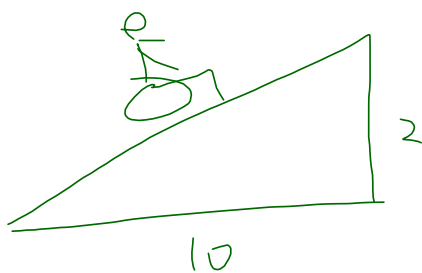
$$= \left(\frac{4}{2}, \frac{10}{2} \right)$$

$$= (2, 5)$$



$$\frac{2 + 7}{2} = \frac{9}{2} = 4\frac{1}{2}$$



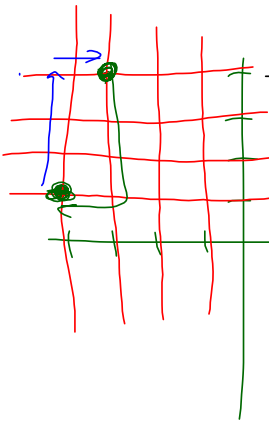


$$\frac{\text{rise}}{\text{run}} = \frac{2}{10} = \text{slope}$$

- | | | | |
|---|----------------------------|---|------------------|
| A | $\circledast .2$ | E | 5 |
| B | $\circledast \frac{2}{10}$ | F | $\frac{20}{100}$ |
| C | $\circledast \frac{1}{5}$ | G | $\frac{10}{2}$ |
| D | $\circledast 20\%$ | H | -5 |

ex 48 $(-4, 1)$ & $(-3, 4)$

Des Cartes
Cartesian



$$\frac{4-1}{-3-(-4)} = \frac{3}{1}$$

$$\frac{-3}{-1} = \frac{3}{1} = 3$$

a)

$$\frac{1-4}{-4-(-3)} = \frac{-3}{-1}$$

b) uphill from L to R

$m =$

$$\frac{y_2 - y_1}{x_2 - x_1}$$

$$m = \frac{y - y}{x - x}$$

monter
monter

ex 68 $x + 3y = -6$

$(0, \underline{-2})$

$(\underline{-6}, 0)$

$m = \frac{-2 - 0}{0 - (-6)} = \frac{-2}{6} = -\frac{1}{3}$

— 0 r —

$x + 3y = -6$
 $-x \quad -x$

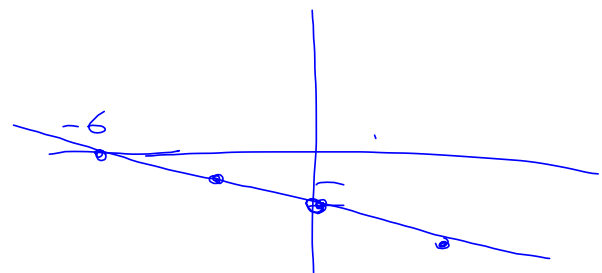
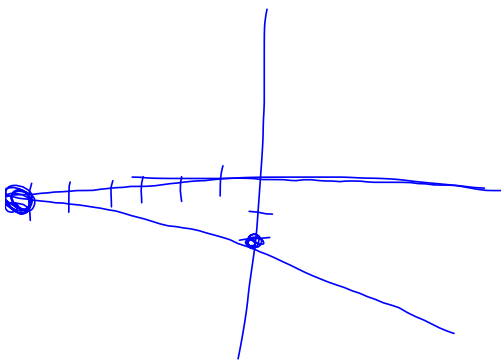
$\frac{3y}{3} = \frac{-x - 6}{3}$

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

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

$y = mx + b$

$\frac{1}{-3} \quad m = -\frac{1}{3}$
 $-\frac{1}{3}$



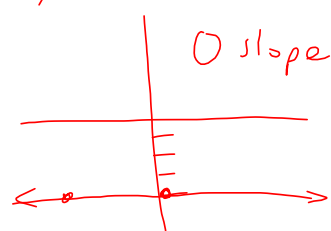
ex 74 $x + 2 = 0$

$x = -2$

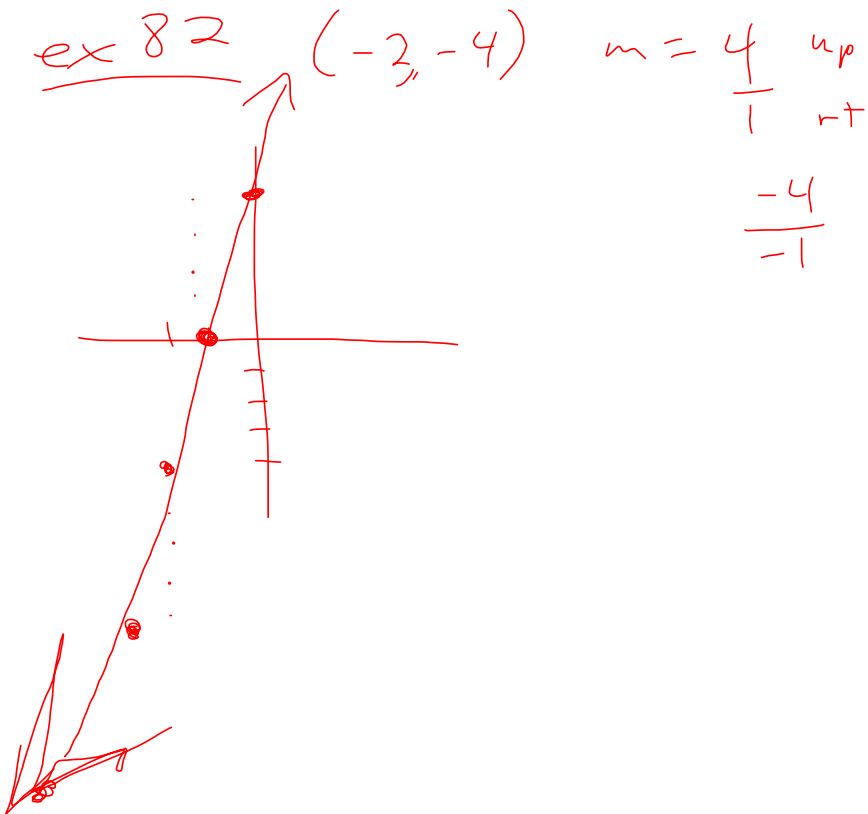


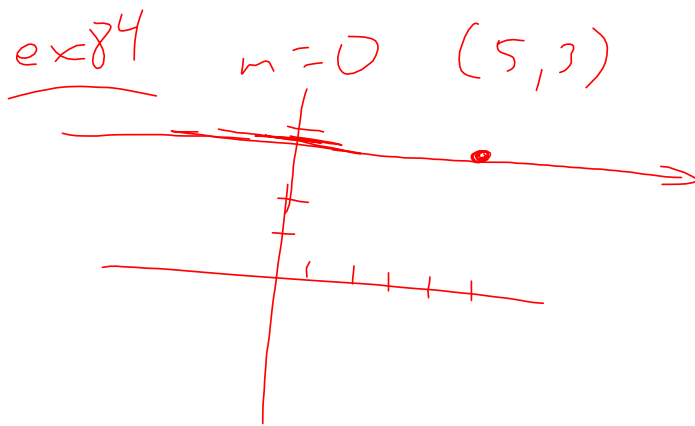
$$\frac{5 - 8}{-2 - (-2)} = \frac{-3}{0}$$

ex 76 $y = -4$



$$\frac{-4 - (-4)}{0 - (-5)} = \frac{0}{5}$$





ex 92

$$2x + 5y = -7$$

$$\begin{array}{r} -2x \\ -2x \end{array}$$

$$5x - 2y = 1$$

$$\begin{array}{r} -5x \\ -5x \end{array}$$

$$5y = -2x - 7$$

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

$$y = -\frac{2}{5}x - \frac{7}{5}$$

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

$$m = -\frac{2}{5}$$

$$m = \frac{5}{2}$$

Same slope \rightarrow parallel $\leftarrow \frac{1}{2} \neq \frac{1}{2}$

opposite reciprocals \rightarrow perpendicular $\leftarrow \frac{1}{2} \neq -2$

anything
else \rightarrow neither

$\circ \neq$ undef.