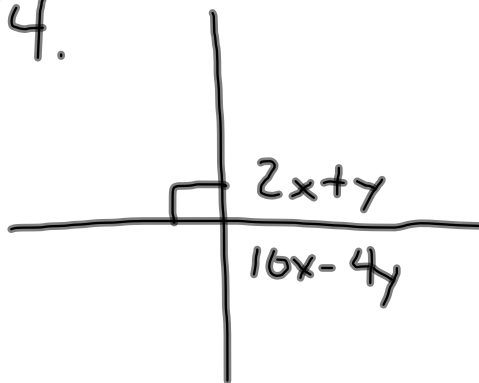


14.



$$\begin{cases} 10x - 4y = 90 \\ (2x + y = 90) \cdot 4 \end{cases}$$

$$\begin{array}{r} 10x - 4y = 90 \\ 8x + 4y = 360 \\ \hline \end{array}$$

$$\frac{18x}{18} = \frac{450}{18}$$

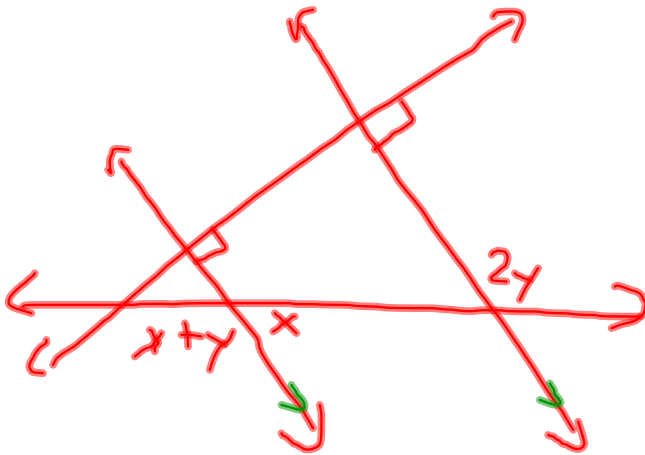
$$2x + y = 90$$

$$2(25) + y = 90$$

$$\begin{array}{r} 50 + y = 90 \\ -50 \quad -50 \end{array}$$

$$x = 25 \qquad y = 40$$

15.



$$\begin{cases} x+y+x = 180 \\ x+y = 2y \end{cases}$$

$$\begin{cases} \cancel{2x+y} = 180 \\ \cancel{x-y} = 0 \end{cases}$$

$$x-y=0$$

$$60-y=0$$

$$+y \quad +y$$

$$\frac{3x}{3} = \frac{180}{3}$$

$$60=y$$

$$x=60$$

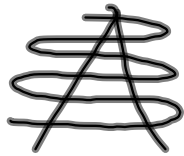
0-5+

6-10v

11r-

3.5 slope

slope is the steepness of a line.



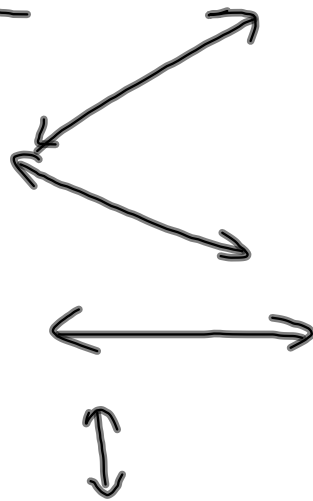
slope gradient = $\frac{1}{10}$

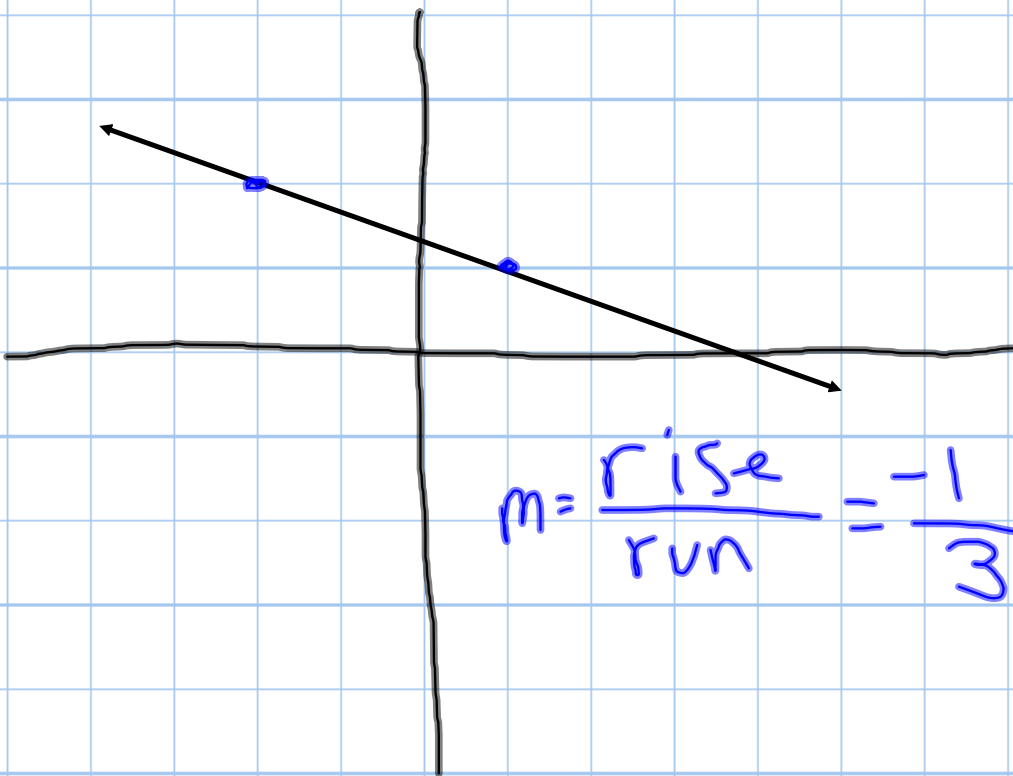
slope = $\frac{\text{rise}}{\text{run}} = \frac{\text{how far } \uparrow \text{ or } \downarrow \text{ line goes}}{\text{how far } \rightarrow \text{ line goes}}$

slope = $m = \frac{y_1 - y_2}{x_1 - x_2}$ given points (x_1, y_1) & (x_2, y_2)

classifications of slope

1. Positive slope \rightarrow increasing
2. Negative slope \rightarrow decreasing
3. Zero slope \rightarrow horizontal
4. undefined slope \rightarrow vertical





Ex: Find the slope between the points $(2, -6)$ and $(-4, -8)$

$$\begin{aligned} m &= \frac{y_1 - y_2}{x_1 - x_2} \\ &= \frac{-6 - (-8)}{2 - (-4)} \\ &= \frac{2}{6} = \left(\frac{1}{3}\right) \end{aligned}$$

Parallel lines have the same slope.

Perpendicular lines have slopes that are opposite reciprocals

HW:
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