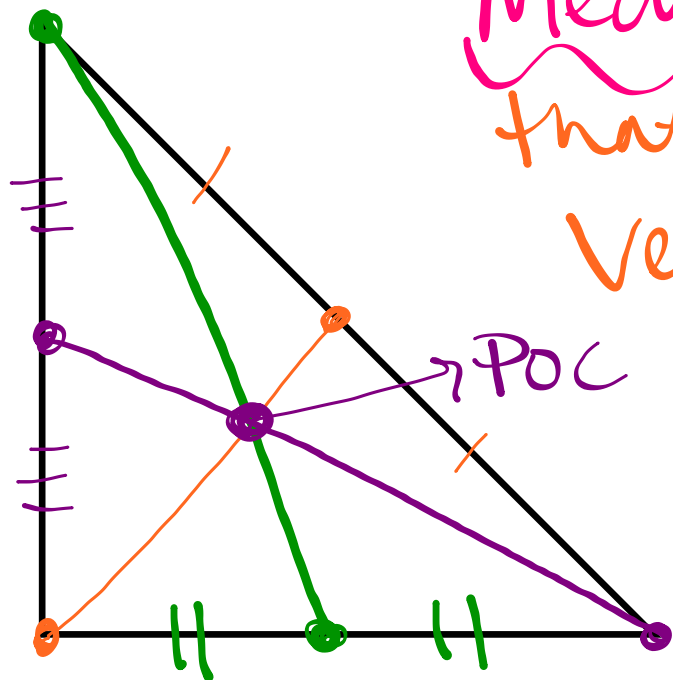


1 Bisector : Seg.

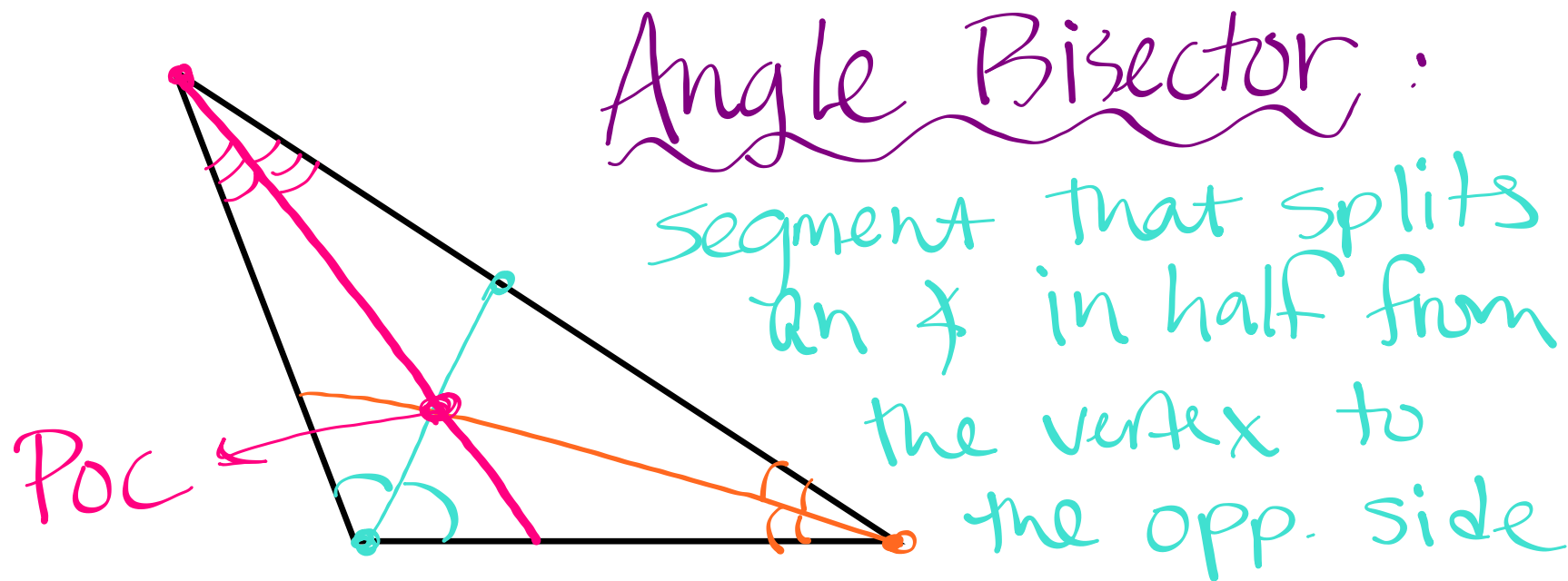
that intersects opp.
sides midpoint \perp ly.

* tic marks \perp Rt \perp

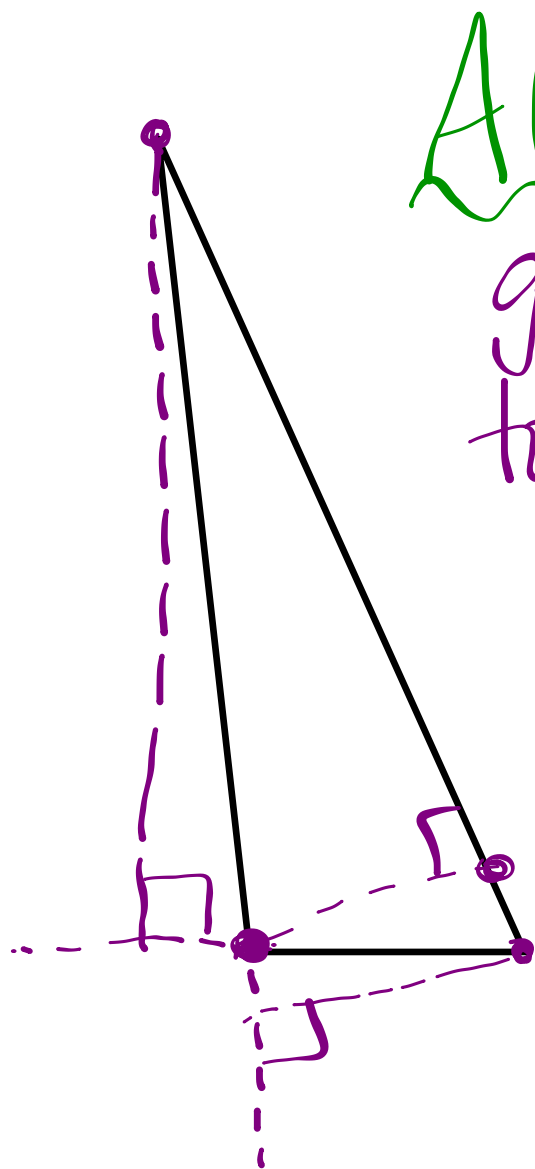


Median : Segment
that goes from the
vertex to opp. side's
midpoint.

* tic marks



* Arc marks



Altitude : Seg. that goes from the vertex to the opp. side \perp ly.

* Rt \angle marking.

Review of Algebra for POC

Slope: (m)

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

$$\begin{matrix} x_1 & y_1 \\ (6, & 5) \end{matrix}$$

$$\begin{matrix} (2, & 4) \\ x_2 & y_2 \end{matrix}$$

$$m = \frac{4 - 5}{2 - 6} = \frac{-1}{-4} = \boxed{\frac{1}{4}}$$

Slope: negative reciprocal

* flip it $\frac{1}{c}$ reverse it

$$m: \frac{1}{4}$$

$$m: 5$$

$$m: -\frac{6}{13}$$

$$\perp m: -\frac{4}{1} = -4$$

$$\perp m: -\frac{1}{5}$$

$$\perp m: \frac{13}{6}$$

Point-Slope: $y - y_1 = m(x - x_1)$

↳ point

(x_1, y_1)

↳ m

1 m or m

$(\overset{x_1}{9}, \overset{y_1}{-2})$

$m: 3$

$$y - (-2) = 3(x - 9) \text{ OR } y + 2 = 3(x - 9)$$

System: 2 or more equations

the solution to a system is the
Point of Intersection

Ways to solve:

1) Substitution $\begin{matrix} y = \\ x = \end{matrix}$

2) graphing $\begin{matrix} y = \\ y = \end{matrix}$

3) Elimination $\begin{matrix} 2x \\ -2x \end{matrix}$

Ex:

$$y = 2x - 4$$

$$y = 4x - 10$$

$$y = \boxed{2x - 4}$$
$$y = 4x - 10$$

$$\begin{array}{r} 2x - 4 = 4x - 10 \\ -2x \quad -2x \\ \hline \end{array}$$

$$\begin{array}{r} -4 = 2x - 10 \\ +10 \quad +10 \\ \hline \end{array}$$

$$\begin{array}{r} 6 = 2x \\ \frac{6}{2} = \frac{2x}{2} \\ \hline \end{array}$$
$$\boxed{3 = x}$$

Substitution

$$y = 2(3) - 4$$
$$6 - 4 = 2$$

$$\boxed{y = 2}$$

$$\boxed{(3, 2)}$$

$$\begin{aligned} (y = 2x - 4) - 1 \\ y = 4x - 10 \end{aligned}$$

Elimination

$$\begin{array}{r} -y = -2x + 4 \\ y = 4x - 10 \\ \hline \end{array}$$

$$\begin{array}{r} 0 = 2x - 6 \\ +6 \qquad \qquad +6 \\ \hline \end{array}$$

$$\frac{6}{2} = \frac{2x}{2} \quad \boxed{x = 3}$$

$$\begin{aligned} y &= 2(3) - 4 \\ &= 6 - 4 \\ &= 2 \end{aligned}$$

$$\boxed{y = 2}$$

$$\boxed{(3, 2)}$$

Midpoint : $\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$
(average x's, average y's)

$$\begin{matrix} x_1 & y_1 \\ (-2, & 3) \end{matrix}$$

$$\begin{matrix} (7, & -5) \\ x_2 & y_2 \end{matrix}$$

$$\left(\frac{-2+7}{2}, \frac{3-5}{2} \right)$$

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

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