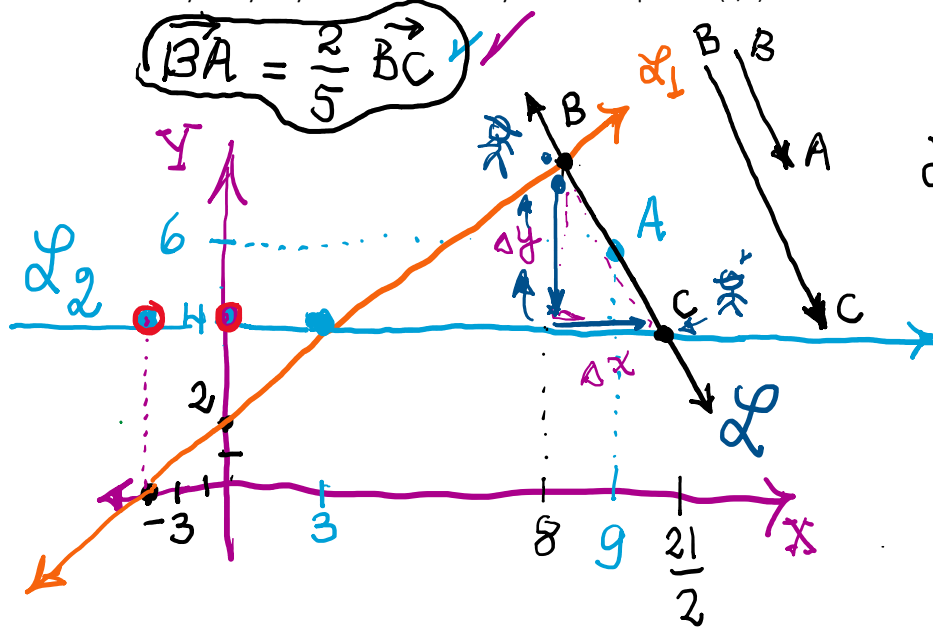


EJERCICIO: Encontrar la ecuación de la recta que pasa por  $A=(9,6)$  y corta a las rectas  $L_1: 2x-3y+6=0$  y  $L_2: y-4=0$  en los puntos B y C. De modo que  $BA = (2/5)BC$



$$A - B = \frac{2}{5}(C - B)$$

$$(9-p, 4-\frac{2}{3}p) = \frac{2}{5}(9-p, 2-\frac{2}{3}p)$$

$$1 = \frac{2}{5}(9-9) \quad 9 = 8 + \frac{5}{2} \quad 9 = \frac{21}{2}$$

$$\begin{cases} 9-p = \frac{2}{5}(9-p) \\ 4-\frac{2}{3}p = \frac{2}{5}(2-\frac{2}{3}p) \end{cases} \Rightarrow p = 8, \quad 9 = \frac{21}{2}$$

$$4-\frac{2}{3}p = \frac{2}{5}(2-\frac{2}{3}p) \Rightarrow p = 8,$$

$$4-\frac{2}{3}p = \frac{4}{5} - \frac{4}{15}p$$

$$\frac{16}{5} = (\frac{2}{3} - \frac{4}{15})p$$

$$\frac{16}{5} = \frac{6}{15}p$$

$$\frac{16}{5} = \frac{6}{15}p$$

$$48 = 6p$$

$$\vec{a} \parallel \vec{b} = \vec{BC}$$

$$L: P_0 + t\vec{a} \quad (9,6) + t(1, -\frac{4}{3}), t \in \mathbb{R}$$

$$L_1: 2x - 3y + 6 = 0$$

$$\begin{pmatrix} 0 & 2 \\ -3 & 0 \end{pmatrix}$$

$$L_2: y = 4$$

$$A = (9, 6)$$

$$B: x = p$$

$$2p - 3y + 6 \Rightarrow y = \frac{2p+6}{3}$$

$$B = (p, \frac{2}{3}p + 2)$$

$$C = (9, 4)$$

$$\vec{BA} = A - B$$

$$B = (8, \frac{22}{3}), C = (\frac{21}{2}, 4)$$

$$m = \frac{\Delta y}{\Delta x} = \frac{\frac{22}{3} - 4}{\frac{21}{2} - 8} = \frac{-10/3}{5/2} = -\frac{20}{15} = -\frac{4}{3}$$

$$y - y_0 = m(x - x_0)$$

$$A = (x_0, y_0) = (9, 6)$$

$$L: y - 6 = -\frac{4}{3}(x - 9)$$

