(20) let line $2x+3y-5=0$ and line segment AB intersect at $P(x,y)$

let $AP:PB = k:1$

$$x = \frac{2k+8}{k+1}, \quad y = \frac{k-9}{k+1}$$

$\because P(x,y)$ lies on $2x+3y-5=0$

$$\therefore 2\left(\frac{2k+8}{k+1}\right) + 3\left(\frac{k-9}{k+1}\right) = 5$$

$\times (k+1)$

$$4k+16+3k-27 = 5k+5$$

$$\Rightarrow 2k = 5+11$$

$$\Rightarrow k = \frac{16}{2}$$

$$\Rightarrow k = 8$$

$\therefore AP:PB = 8:1$

$$x = \frac{2\times 8+8}{8+1}, \quad y = \frac{8-9}{8+1}$$

$$= \frac{24}{9} \qquad = -\frac{1}{9}$$

$$= \frac{8}{3}$$

$$\therefore P\left(\frac{8}{3}, -\frac{1}{9}\right)$$