

MP $(-7, 3)$ find (x, y)

EP $(-3, 8)$
 (x, y)

$$MP \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right) = (-7, 3)$$

$$\frac{x_1 + (-3)}{2} = -7 \quad \frac{y_1 + 8}{2} = 3 \quad (-11, -2)$$

$$x - 3 = -14$$

$$x = -11$$

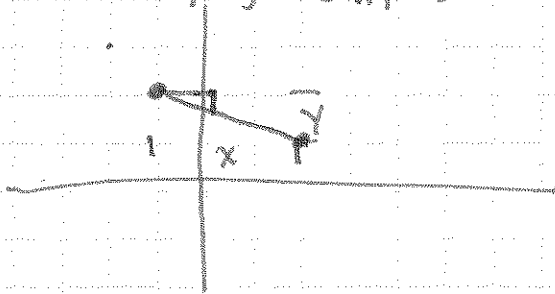
divide a segment into thirds

$(-2, 4)$ $(4, 2)$

distance of x's 6

distance of y's 2

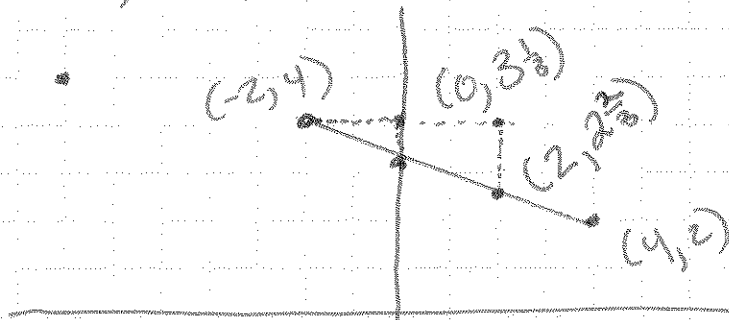
cut into thirds
 add the values back



$$\frac{1}{3} \cdot 6 \quad \frac{2}{3} \cdot 6 \quad \frac{1}{3} \cdot 2 \quad \frac{2}{3} \cdot 2$$

(2) (4) $(\frac{2}{3})$ $(\frac{4}{3})$ ← distance from pt 1

$$(-2 + 2, 4 - \frac{2}{3}) \quad (-2 + 4, 4 - \frac{4}{3})$$



you try

$(3, 2)$ $(-9, 11)$

$$\frac{-12, 9}{3} = -4, -3 \quad \frac{9, -3}{3} = 3, -1$$

$(3, 2)$
 ①

$(-1, 5)$
 ②

$(-5, 8)$ $(-9, 11)$
 ③

① sub $x_2 - x_1$ $y_2 - y_1$

② $\frac{1}{3}, \frac{2}{3}$

③ add back