OLATUNJI ANUOLUWAPO TEMITOPE MAT 102
COMPUTER ENGINEERING.
19/ENG02/050.

ASSignment.

(1) A (6, -5), B (-2, 1), C (0, 3).

$\overline{AB} = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

$= \sqrt{(-2-6)^2 + (1+5)^2}$

$= \sqrt{64 + 36}$

$= \sqrt{100}$

$= 10.$

$\overline{BC} = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

$= \sqrt{(0+2)^2 + (3-1)^2}$

$= \sqrt{4+4}$

$= \sqrt{8}$ or $2.83.$

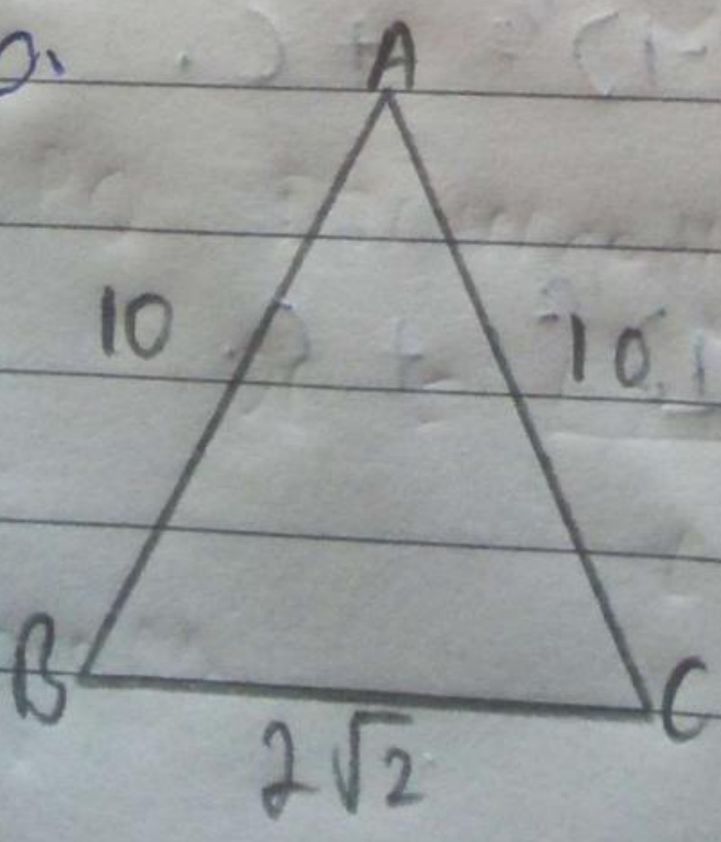
$\overline{AC} = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

$= \sqrt{(0-6)^2 + (3+5)^2}$

$= \sqrt{36 + 64}$

$= \sqrt{100}$

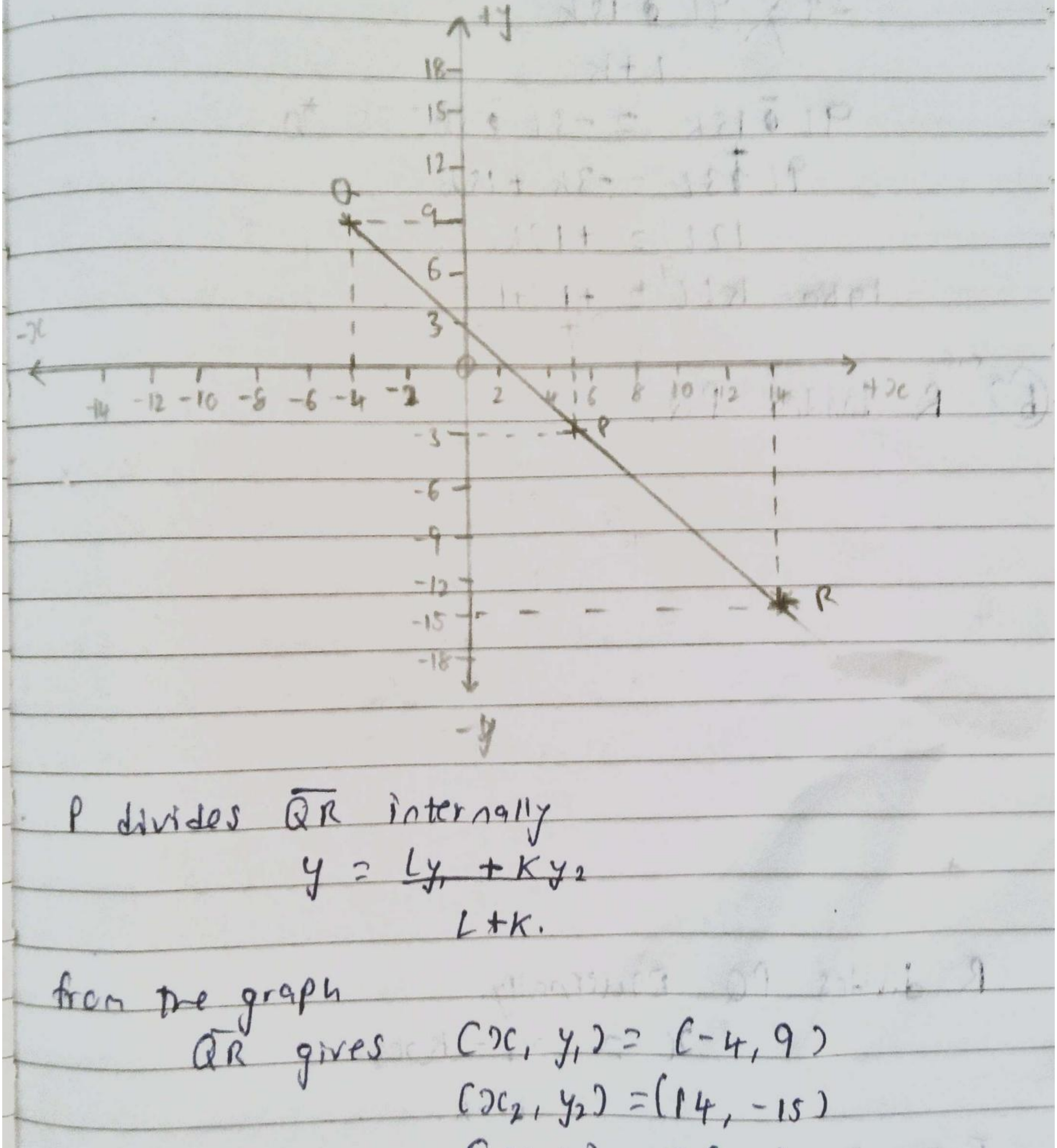
$= 10.$



forms an isoceles triangle.

(2) P(5, -3), Q(-4, 9), R(14, -15).

(a) P divides QR.



P divides $\overline{QR}$ internally

$$y = \frac{Ly_1 + Ky_2}{L + K}.$$

from the graph

$\overline{QR}$ gives $(x_1, y_1) = (-4, 9)$

$(x_2, y_2) = (14, -15)$

$(x, y) = (5, -3)$

$y = -3,\ y_1 = 9,\ y_2 = -15$

$$-3 = \frac{L(9) + k(-15)}{L + k}$$

$$-3(L + k) = 9L - 15k$$

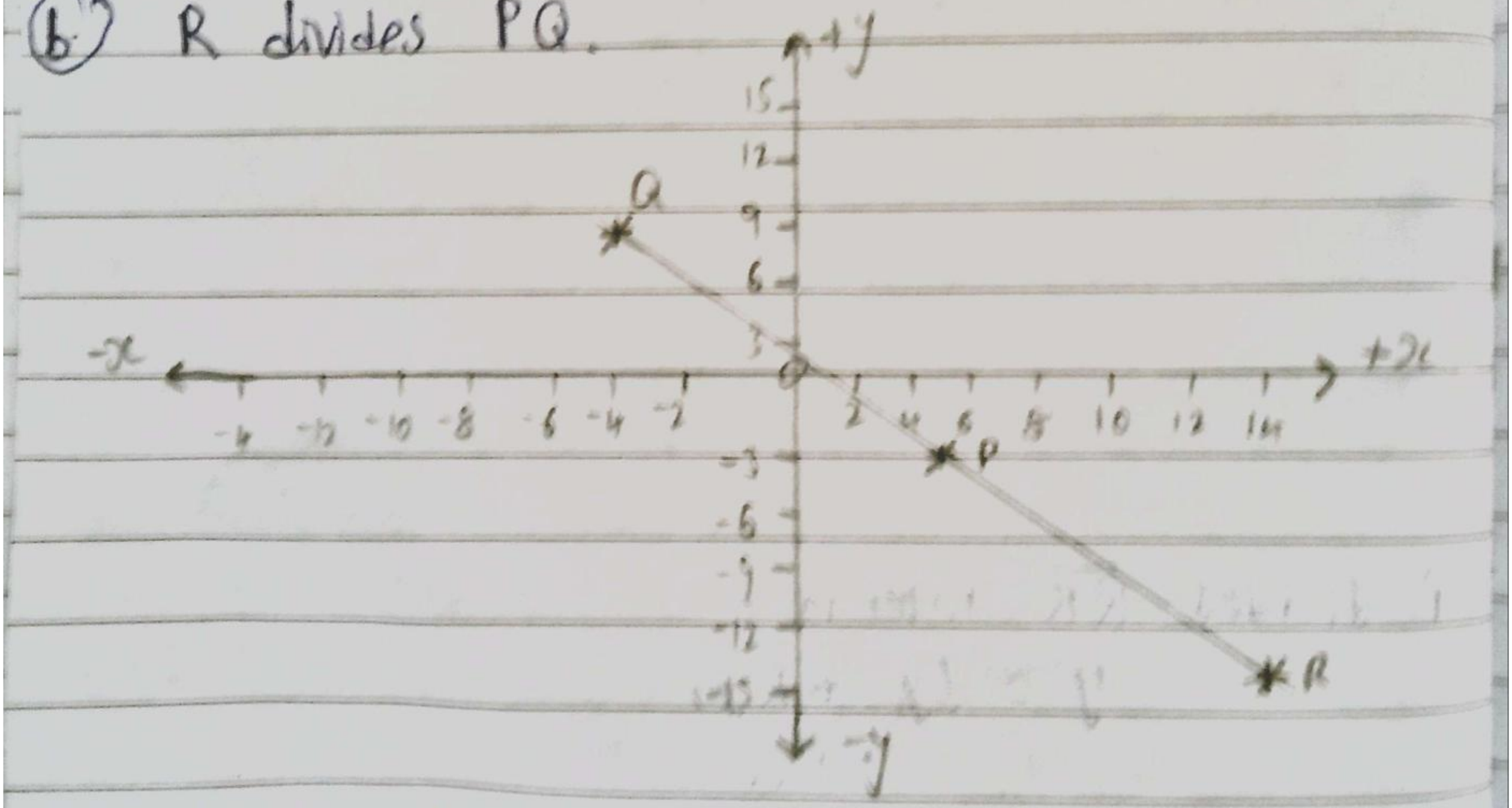
$$9L - 15k = -3L - 3k$$

$$9L + 3L = -3k + 15k$$

$$12L = +12k$$

ratio. $k : L = +1 : +1$

(b) R divides PQ.



R divides PQ Externally.

$$x = \frac{Lx_2 - kx_1}{L - k}$$

From the graph,

PQ gives $(x_1, y_1) = (5, -8)$

$(x_2, y_2) = (-4, 9)$

$(x, y) = (14, -15)$.

$x = 14, \quad x_1 = 5, \quad x_2 = -4.$

$$14 = \frac{L(5) - K(-4)}{L - K}.$$

$$14 \times \frac{5L + 4K}{L - K}$$

$14L - 14K = 5L + 4K.$

$14L - 5L = 4K + 14K.$

$9L = 18K.$

ratio $K : L = 2 : 1.$