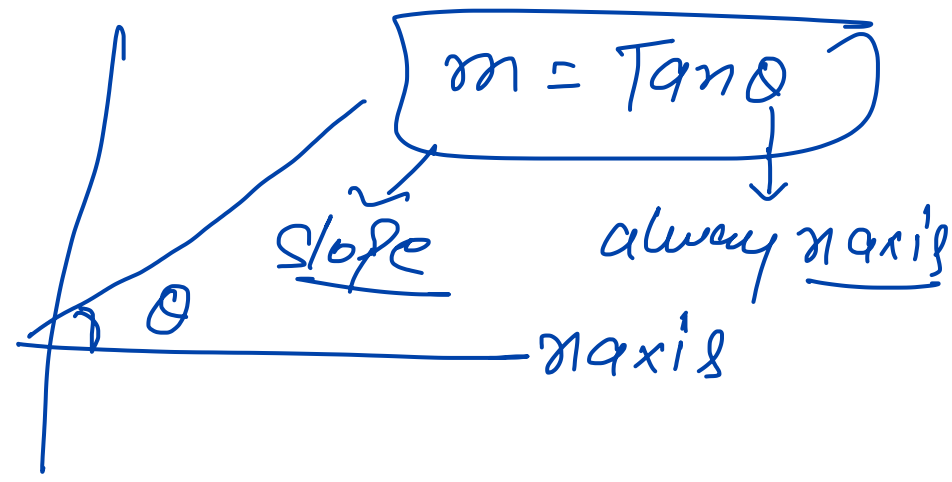
S.T.L.

$A(x_1, y_1)$ $B(x_2, y_2)$



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

(*) (x_1, y_1) (x_2, y_2) (x_3, y_3)

$$\Delta = \frac{1}{2}\left[x_1(y_2 - y_3) + x_2(y_3 - y_1) + x_3(y_1 - y_2)\right]$$

(*) $A(x_1, y_1)$ $B(x_2, y_2)$

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

(*) mid point $\Rightarrow A(x_1, y_1)$ $B(x_2, y_2)$

$$AB = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$$

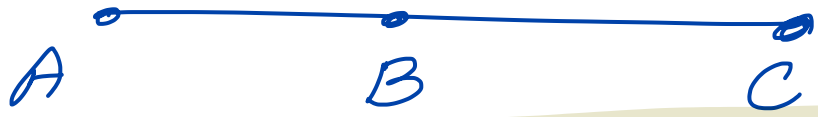
(*) If Two lines are $\parallel$ Then

$$m_1 = m_2$$

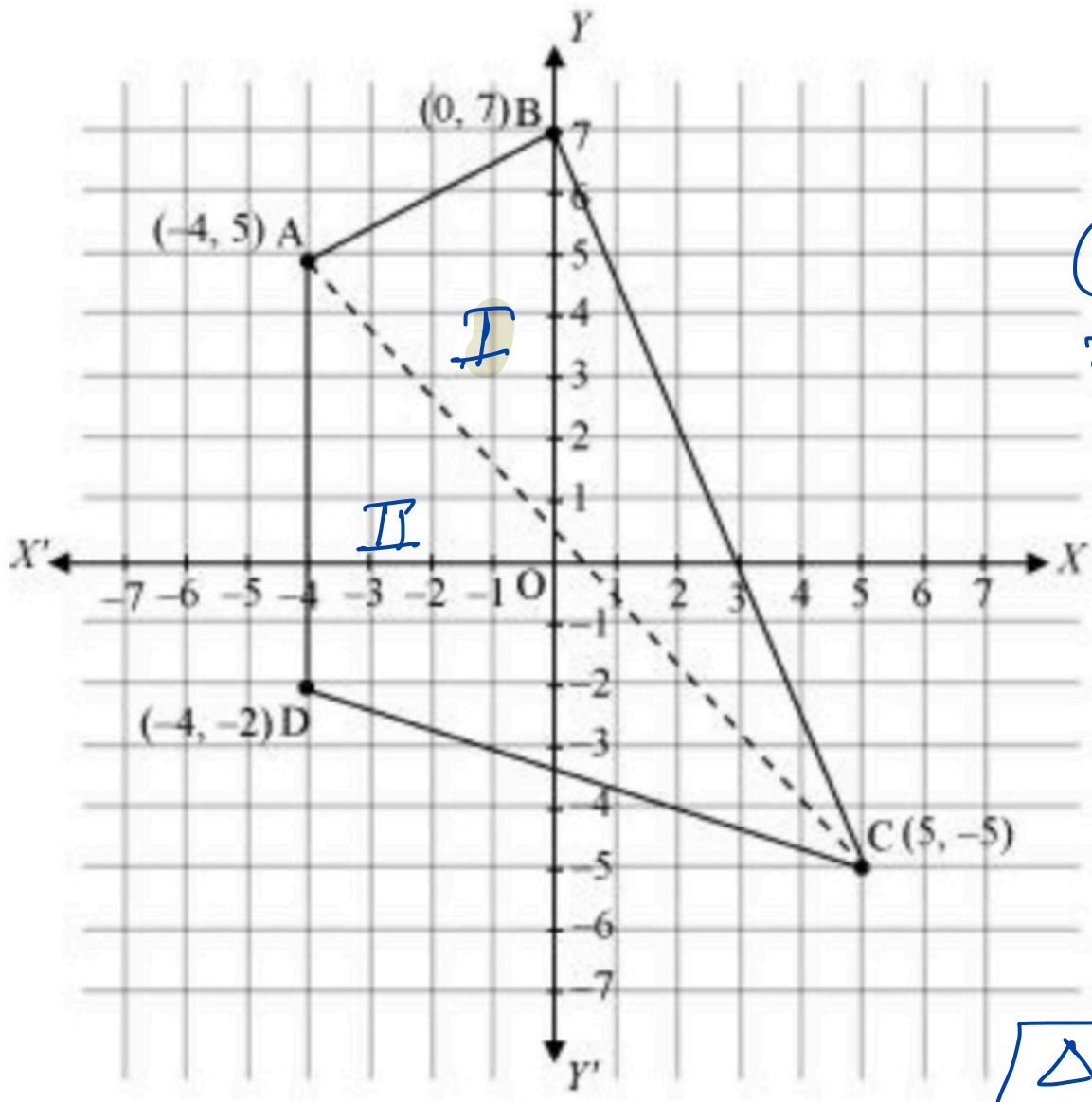
(*) If Two lines are perpendicular

$$m_1 m_2 = -1$$

If Three Points are Collinear.



Then **Slope of AB = Slope of BC**



ABC

$(0,7)\ (-4,5)\ (5,-5)$

$x_1 y_1 \quad x_2 y_2 \quad x_3 y_3$

$\Delta_1 = ?$

ADC

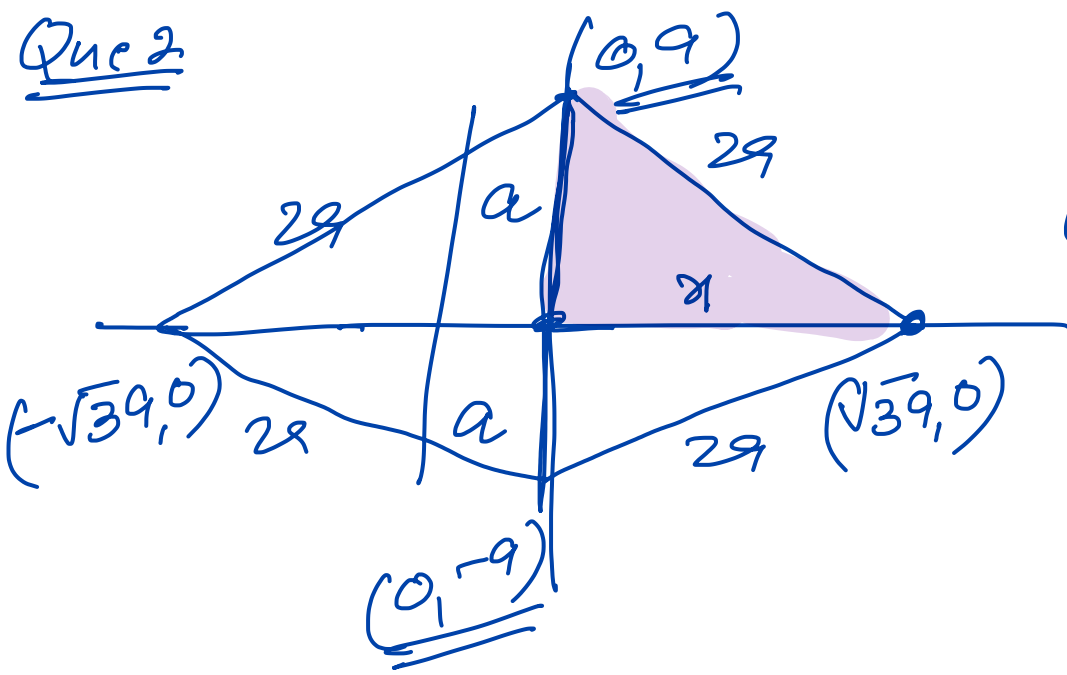
$(-4,5)\ (-4,-2)\ (5,-5)$

$x_1 y_1 \quad x_2 y_2 \quad x_3 y_3$

$\Delta_2 = ?$

$\Delta = \Delta_1 + \Delta_2$

Que 2



$(2a)^2 = a^2 + x^2$

$4a^2 = a^2 + x^2$

$4a^2 - a^2 = x^2$

$3a^2 = x^2$

$x = \pm\sqrt{3}a$

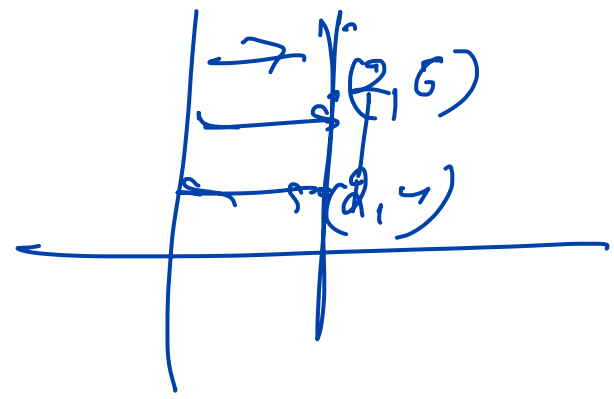
Que 3. $P(x_1, y_1)$ $Q(x_2, y_2)$ PQ is || to y axis

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

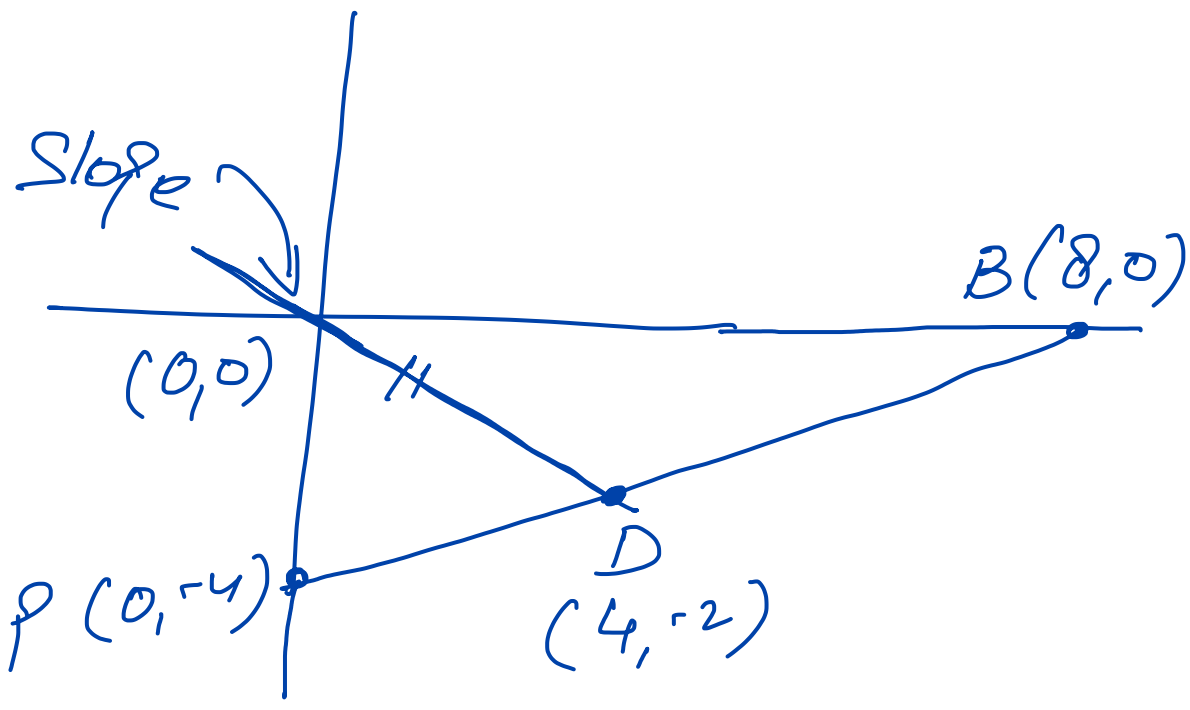
$x_1 = x_2$

$$= \sqrt{(y_2 - y_1)^2}$$

$$= |y_2 - y_1|$$



Que 5.

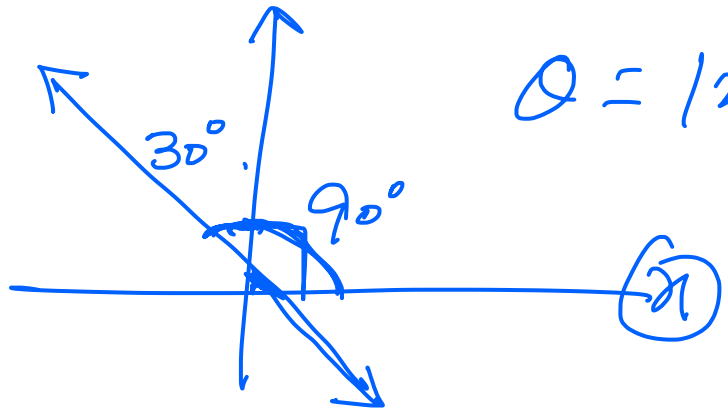


(0,0) (4,-2) $m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-2-0}{4-0}$

$x_1\ y_1$ $x_2\ y_2$

$= -\frac{1}{2}$ Ans

Que 7



$\sqrt{3}$

$m = \tan 120°$

$m = \tan(180 - 60)$

$-\tan 60 = -\sqrt{}$

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

$$\tan\theta = \frac{-2-(-1)}{4-3} = \frac{-2+1}{1} = \boxed{-1}$$

$$\tan\theta = \tan(\underline{90}+45^\circ)$$

$$\boxed{\theta = 135^\circ}$$

Quell.

$$\boxed{\tan\theta = \left|\frac{m_2 - m_1}{1 + m_1 m_2}\right|}$$

$m_1 = m$

$m_2 = 2m$

$\tan\theta = \frac{1}{3}$

Que12 (x_1, y_1) (h, k)

$\downarrow m$

$$m = \frac{k - y_1}{h - x_1}$$

$$\boxed{(k - y_1) = m(h - x_1)}$$

Que13. $(h, 0)$ (a, b) $(0, k)$ lie on line

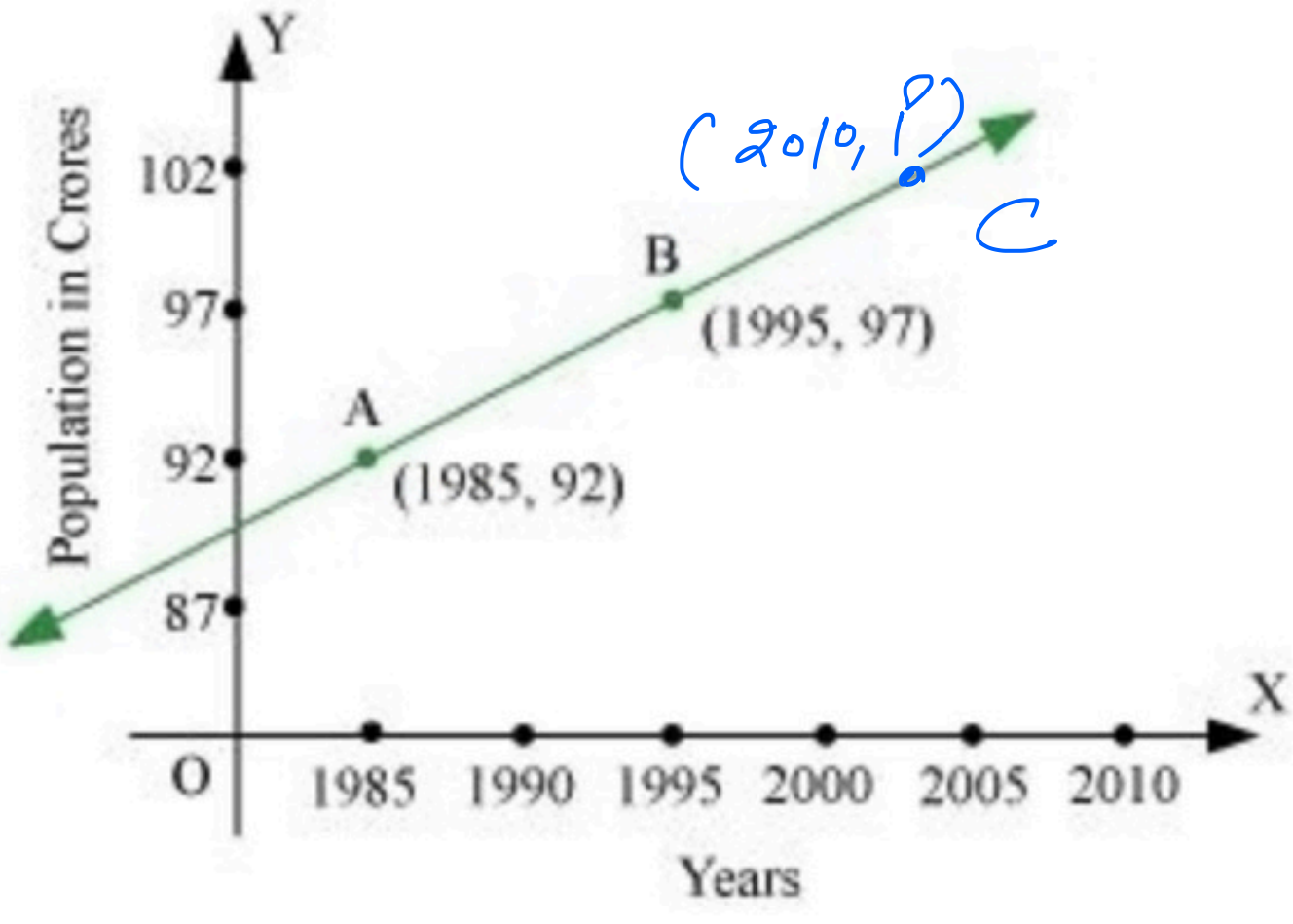
$$\frac{b-0}{a-h} \not= \frac{k-b}{0-a}$$

$$= -ab = ak - ab - hk + bh$$

$$\frac{hk}{hk} = \frac{ak}{hk} + \frac{bh}{hk}$$

$$\boxed{\frac{a}{h} + \frac{b}{k} = 1}$$

the year 2010?



$$\frac{97-92}{1995-1985} = \frac{P-97}{2010-1995}$$

$$\frac{5}{10} \times = \frac{P-97}{15}$$

$$2$$

$$15 = 2P - 194$$

$$15 + 194 = 2P$$

$$\frac{209}{2} = P \Rightarrow 104.5\ Cr$$