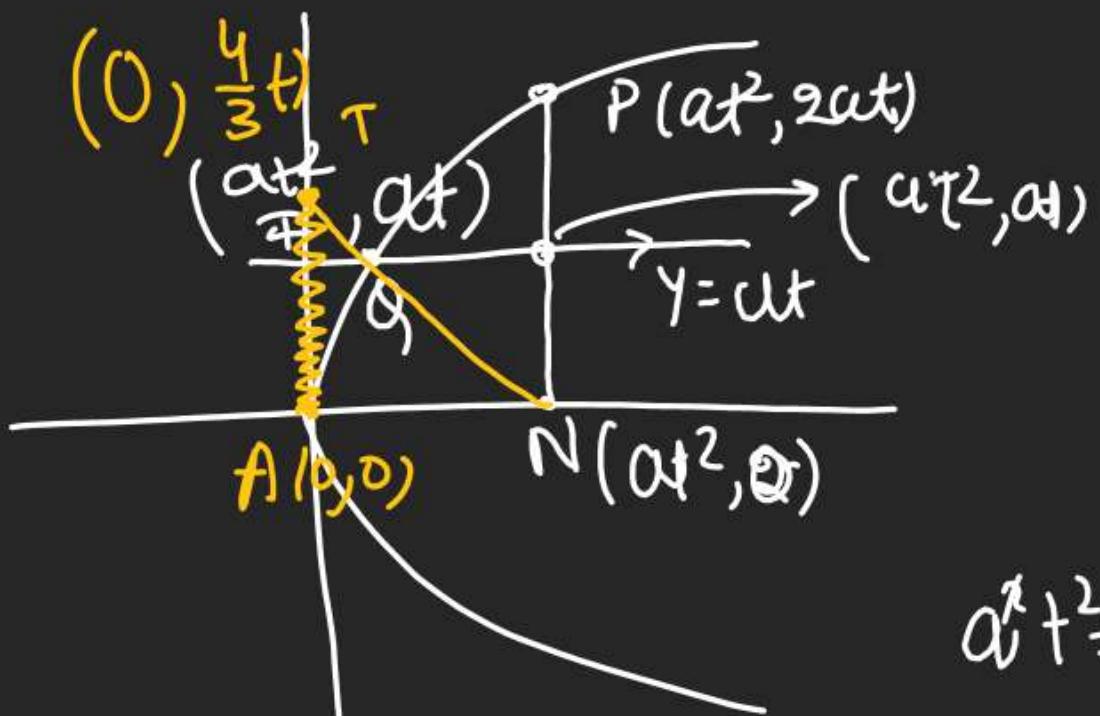


(7)



$$\text{Q9 } N \rightarrow (y-0) = \frac{0-at}{at^2 - \frac{at^2}{4}} (x-at^2)$$

$$y = -\frac{4at}{3at^2} (x-at^2)$$

$$\text{for } t=0 \Rightarrow x=0 \text{ put } y = +\frac{4}{3}at$$

$$at^2 = 4ax \\ x = \frac{at^2}{4}$$

$$AT = KNP$$

$$2 \frac{4at}{3} = K(2at)$$

$$K = \frac{2}{3}$$



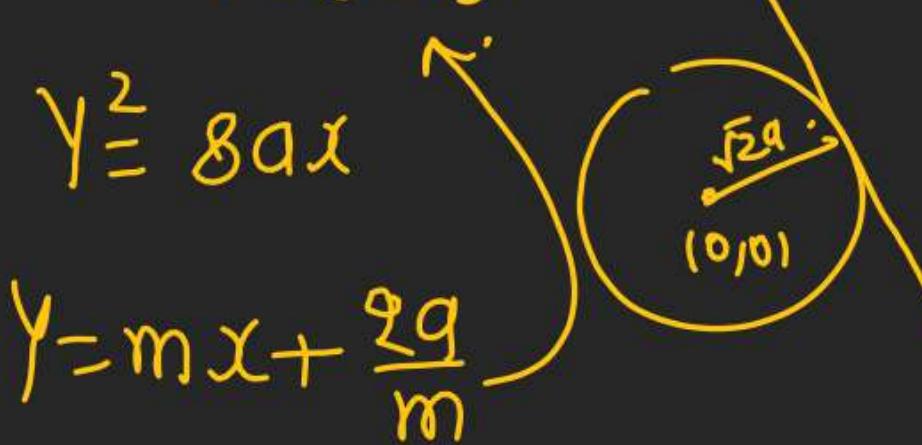
$$\text{Q9 } y^2 = 4x \rightarrow a > 0$$

$$L_{FC} = \theta(t + \frac{1}{t})'$$

$$\text{Q10 } y^2 + 4y + 4 = 6x + 2 + 4 \\ (y+2)^2 = 6(x+1) \quad t_1 + t_2 = 1$$

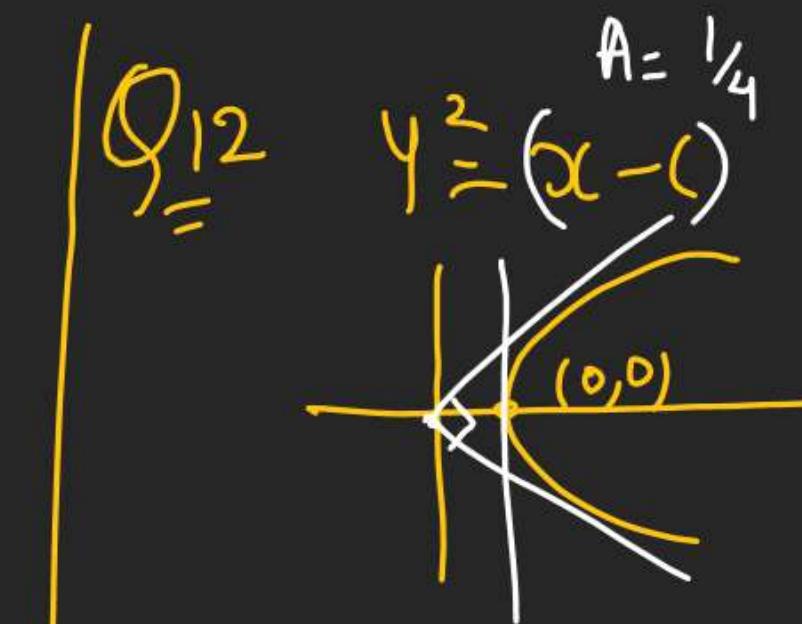
$$h+1 = at_1 t_2$$

$$\text{Q11} \quad x^2 + y^2 = (\sqrt{2}a)^2$$



$$m(-y + \frac{2q}{m}) = 0 \quad (0, 0)$$

$$J = \frac{\left| \frac{2q}{m} \right|}{\sqrt{m^2 + 1}} = \sqrt{2}a$$



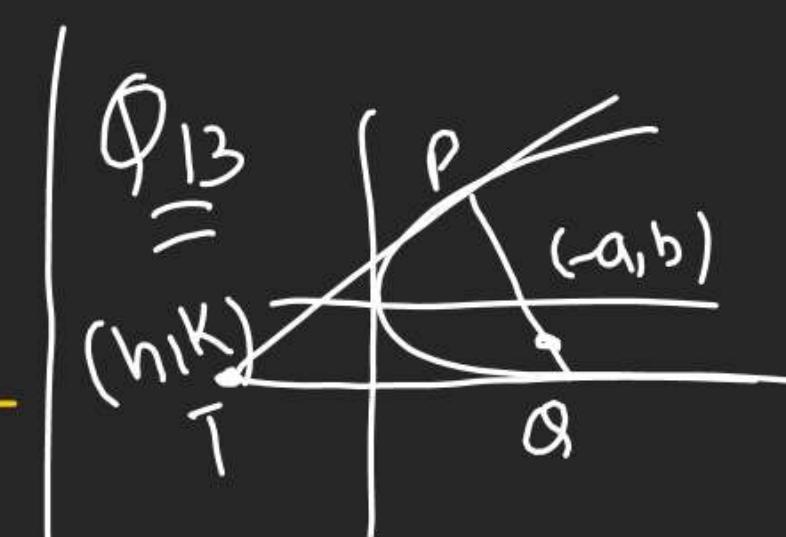
$$x = -A$$

$$x - c = -\frac{1}{4}$$

$$t = 0, y = 0$$

$$-c = -\frac{1}{4}$$

$$c = \frac{1}{4}$$



$$2x - y(t_1 + t_2) + 2at_1t_2 = 0$$

$$-2a - b(t_1 + t_2) + 2bt_1t_2 = 0$$

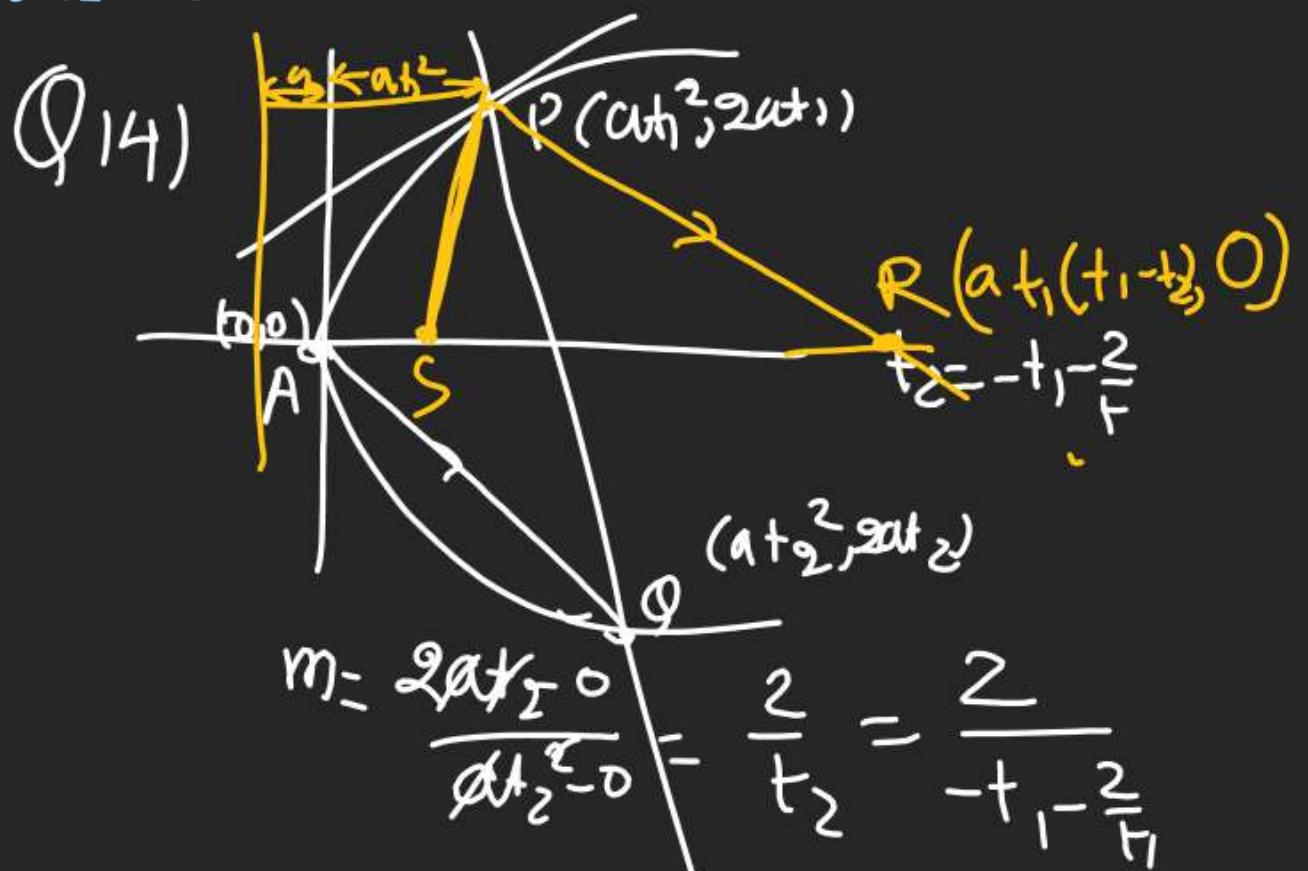
$$-2a - \frac{bK}{a} + 2h = 0$$

$$\frac{bK}{a} = 2(h - a)$$

$$by = \frac{2q}{m}(x - a)$$

$$h = at_1t_2$$

$$K = a(t_1 + t_2)$$



$$PR : \Rightarrow (Y - 2at_1) = \frac{2}{t_2} (x - at_1^2)$$

$$-2at_1 t_2 = \cancel{(x - at_1^2)}$$

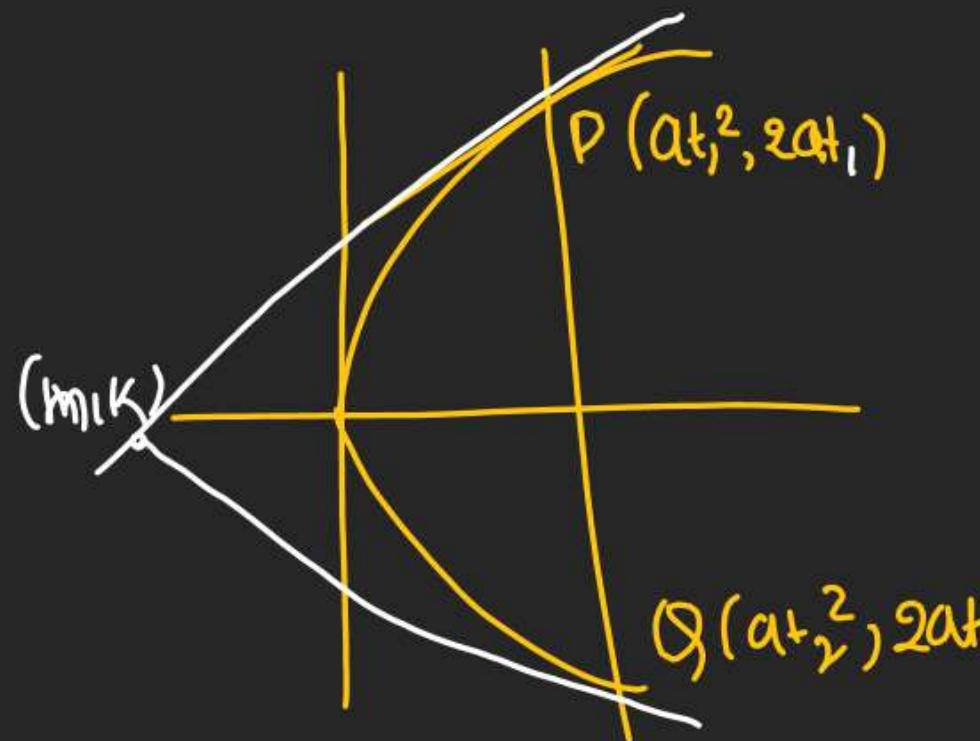
$$\therefore at_1^2 - at_1 t_2$$

$$\begin{aligned} L_{AR} &: at_1(t_1 - t_2) \\ &at_1 \left(t_1 + t_1 + \frac{2}{t_1} \right) \\ &at_1 \left(2t_1 + \frac{2}{t_1} \right) \\ &\underline{2a \left(t_1^2 + 1 \right)} \end{aligned}$$

$$\begin{aligned} P' \rightarrow F.D. &= a + at_1^2 \\ &= a(t_1^2 + 1) \end{aligned}$$

$L_{AR} = 2 \text{ off FD.}$

$$Q(15) \quad t_2 = -t_1 - \frac{2}{t_1}$$



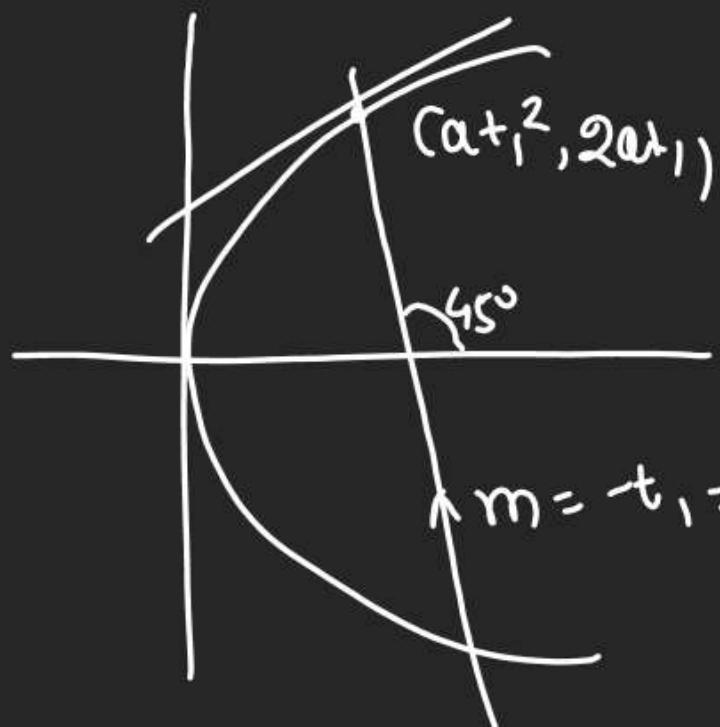
$$t_2 = -t_1 - \frac{2}{t_1}$$

$$h = at_1 t_2 = at_1 \left(-t_1 - \frac{2}{t_1} \right) \Rightarrow$$

$$K = a(t_1 + t_2) = a \left(t_1 - t_1 - \frac{2}{t_1} \right)$$

$$K = -\frac{2a}{t_1} \Rightarrow t_1 = -\frac{2a}{K}$$

$$\begin{aligned} h &= a \left(t_1^2 + 2 \right) \\ &= a \left(\frac{4K^2}{K^2} + 2 \right) \end{aligned}$$



(Q18)

$x+y=k$ is N.O. of $y^2=4x$ (Q20) Done in Q19.

$$y = -x + k$$

$$m=-1 \quad k = -2am - a^2m^3$$

$$k = -2\sqrt{3}(-1) - 3 \times (-1)^3 = 9$$

(Q23, Q24)

$$(Q25) y = mx + \frac{1}{m} \Rightarrow mx - y + \frac{1}{m} = 0 \quad (3, 0) \text{ is on the line}$$

$$\frac{\beta m - 0 + \frac{1}{m}}{\sqrt{m^2 + 1}} = 3 \rightarrow m \text{ find}$$

(Q19) Done

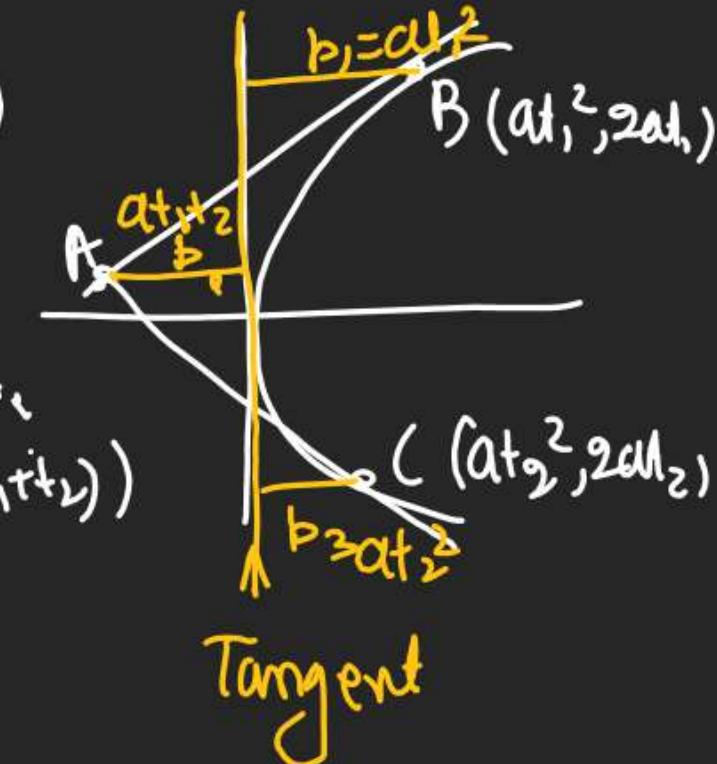
$$(Q20) 4x - 7y + 10 = 0 \leftarrow \text{Compare}$$

$$P_0 \rightarrow (x_1, y_1) \rightarrow y^2 = 4x_1$$

$$yy_1 = 2(x + x_1)$$

$$(Q21) \Delta = \frac{(y_1^2 - 4ax_1)^{3/2}}{4}$$

(Q26)



$$at_1 t_2 = \sqrt{at_1^2 \cdot at_2^2}$$

$$b_2 = \sqrt{b_1 b_3}$$

 b_1, b_2, b_3 are

W.P.