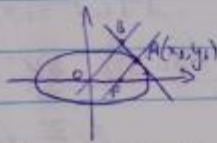


3.65
29



lin AB pada elips

$$\frac{xx_1}{a^2} + \frac{yy_1}{b^2} = 1$$

$$y = -\frac{x_1 b^2}{a^2 y_1} x + \frac{b^2}{y_1}$$

normal elips di titik B(x2, y2) lin

OB lin normal di titik B lin AF

$$m_{AF} = \frac{y_1}{x_1 - c}$$

lin OB

$$y_{OB} = \frac{y_1}{x_1 - c} x$$

OB \perp AB lin AB titik B di elips

$$\frac{y_1}{x_1 - c} x = -\frac{x_1 b^2}{a^2 y_1} x + \frac{b^2}{y_1} \quad / a^2 y_1 (x_1 - c)$$

$$a^2 y_1^2 x = -x_1 b^2 (x_1 - c) x + b^2 a^2 (x_1 - c)$$

$$y_1^2 a^2 x = -x_1 b^2 x + x_1 b^2 c x + b^2 a^2 x_1 - b^2 a^2 c$$

$$x (y_1^2 a^2 + x_1 b^2 - b^2 c x_1) = b^2 a^2 x_1 - b^2 a^2 c$$

$$x (a^2 b^2 - b^2 c x_1) = b^2 a^2 (x_1 - c)$$

$$x = \frac{b^2 a^2 (x_1 - c)}{b^2 (a^2 - c x_1)} = \frac{a^2 (x_1 - c)}{a^2 - c x_1}$$

B di y \rightarrow titik di elips OB titik B di elips

$$y = \frac{y_1}{x_1 - c} \cdot \frac{a^2 (x_1 - c)}{a^2 - c x_1} = \frac{y_1 a^2}{a^2 - c x_1}$$

$$OB = \sqrt{\left[\frac{a^2 (x_1 - c)}{a^2 - c x_1} \right]^2 + \left[\frac{y_1 a^2}{a^2 - c x_1} \right]^2} = \frac{1}{a^2 - c x_1} \sqrt{a^4 (x_1 - c)^2 + y_1^2 a^4}$$

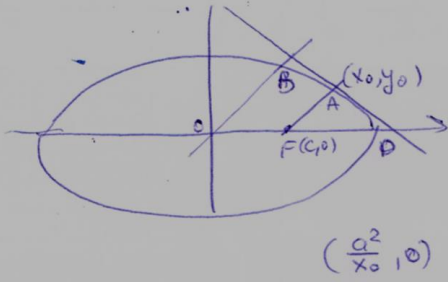
$$= \frac{a^2}{a^2 - c x_1} \sqrt{x_1^2 - 2c x_1 + c^2 + y_1^2} = \frac{a^2}{a^2 - c x_1} \sqrt{(x_1 - c)^2 + y_1^2} = \frac{a^2}{a^2 - c x_1} r_1$$

normal lin elips di titik A lin normal

$$= \frac{a^2}{a^2 - c x_1} r_1 = a$$

$$r_1 = a - \frac{c x_1}{a} = \frac{a^2 - c x_1}{a}$$

אם נניח (x_0, y_0)



$$\lambda = \frac{x x_0}{a^2} + \frac{y y_0}{b^2}$$

נורמלית

היא (D) x-ה נקודת אגף

אם λ

$$\frac{AF}{B_0} = \frac{DF}{D_0}$$

$$\frac{a - \frac{cx}{a}}{B_0} = \frac{\frac{a^2}{x_0} - c}{\frac{a^2}{x_0}}$$

$(r_2 = a - \frac{cx}{a})$ אורך AF

$$B_0 = \frac{\frac{a^2 - cx}{a} \cdot \frac{a^2}{x_0}}{\frac{a^2 - cx_0}{x_0}} = a$$