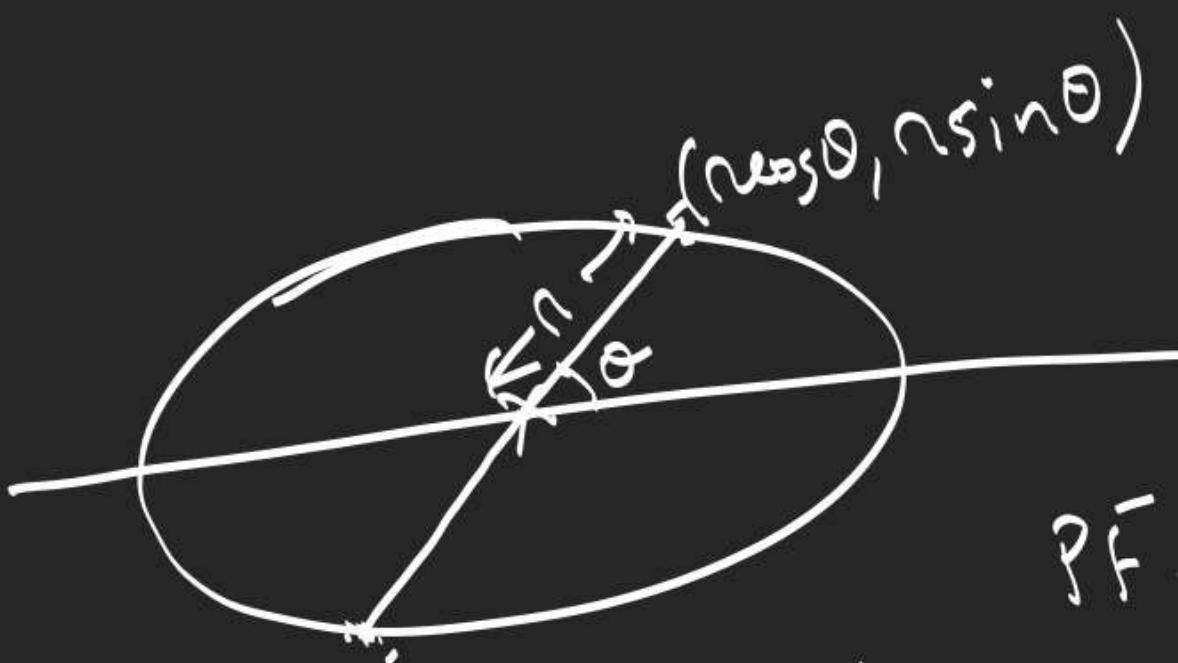


32.

11, 16, 23.



$$\Rightarrow \left(\frac{\cos^2 \theta}{a^2} + \frac{\sin^2 \theta}{b^2} \right) = 1$$

$$PF_1 + PF_2 = \text{const} = 2a, \quad 2a > F_1 F_2$$

$$\begin{aligned} \frac{g_0}{(2r)^2} &= \frac{1}{(2a)^2} + \frac{1}{(2b)^2} && t = \tan \theta \\ \frac{g_0}{g_r} &= \left(\frac{1}{a^2} + \frac{1}{b^2} \right) = 2 \left(\frac{\cos^2 \theta}{a^2} + \frac{\sin^2 \theta}{b^2} \right) \\ &= \left(\frac{1}{a^2} + \frac{1}{b^2} \right)(1+t) = 2 \left(\frac{1}{a^2} + \frac{t}{b^2} \right) \end{aligned}$$

16, 23

$$\frac{a}{e} \cos \frac{\theta + \pi}{2} + \frac{b}{b} \sin$$

$$\frac{\gamma_1}{\frac{a}{e} + a} = -\frac{b}{a} \cot \left(\frac{\theta}{2} + \frac{\pi}{2} \right)$$

$$\frac{\gamma_2}{\frac{a}{e} - a} = -\frac{b}{a} \omega t \frac{\theta}{2}$$

$$-1 = -\frac{b^2}{a^2(1-e^2)}$$

$(a \cos \theta, b \sin \theta) P.$

 $= C$

$(ae, 0) F_1$

$Q \left(\frac{a}{e}, b \left(1 + \frac{1}{e} \right) \tan \frac{\theta}{2} \right)$

$R \left(\frac{a}{e}, b \left(1 - \frac{1}{e} \right) \cot \frac{\theta}{2} \right)$

$$\kappa = \frac{a}{e}$$

$$-1 = -\frac{b^2}{a^2} \frac{(1+e)(1-e)}{(1-e^2)^2} \times \frac{\frac{b}{e}(1+\frac{1}{e})\tan \frac{\theta}{2}}{\frac{a}{e} - ae} \times \frac{\frac{b}{e}(1-\frac{1}{e})\cot \frac{\theta}{2}}{\frac{a}{e} - ae}$$

