

$$\vec{F} = m\vec{a}$$

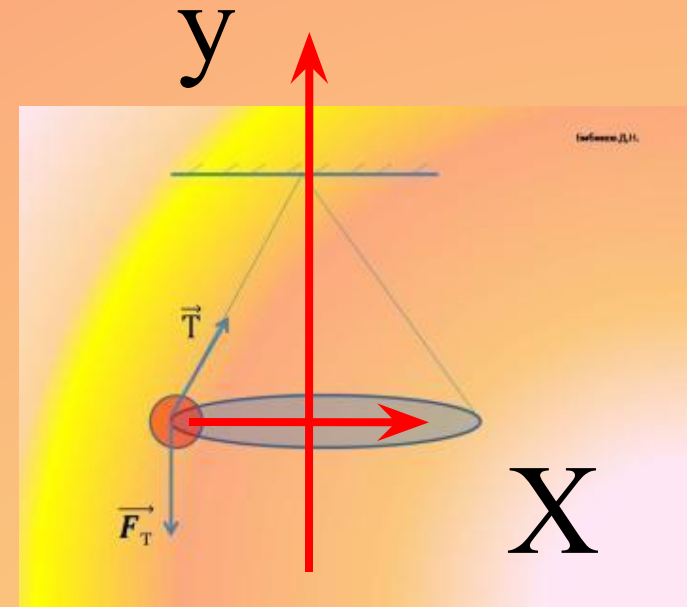
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$$\vec{F}_T + \vec{T} = m\vec{a}$$

$$oy) T \cos \frac{\alpha}{2} - F_T = 0$$

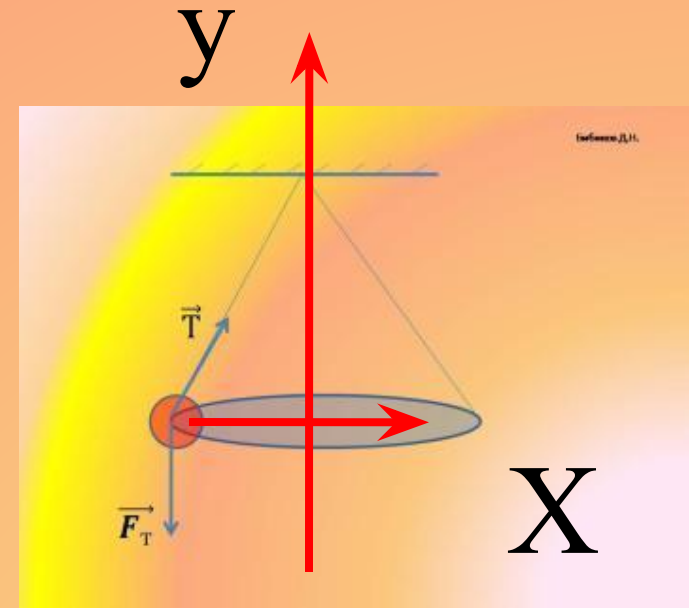
$$ox) T \sin \frac{\alpha}{2} = m \frac{v^2}{R}$$

$$\frac{\sin \frac{\alpha}{2}}{\cos \frac{\alpha}{2}} = \frac{\omega^2 R}{g}$$



$$\frac{\sin \frac{\alpha}{2}}{\cos \frac{\alpha}{2}} = \frac{\omega^2 \ell \sin \frac{\alpha}{2}}{g}$$

$$\frac{1}{\cos \frac{\alpha}{2}} = \frac{4\pi^2 n^2 \ell}{g}$$



$$n = \sqrt{\frac{g}{4\pi^2 \ell \cos \frac{\alpha}{2}}}$$

$$n = \frac{1}{2\pi} \sqrt{\frac{g}{\ell \cos \frac{\alpha}{2}}}$$