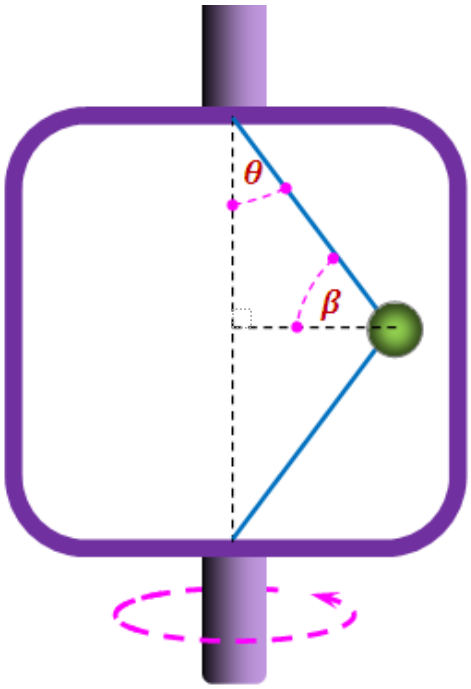


$\cos\theta = 0.8 = \sin\beta$

$\sin\theta = 0.6 = \cos\beta$

$\omega = 4\pi \quad R = 0.3(m)$

$$\Sigma \vec{F}_x = m\vec{a}_R$$

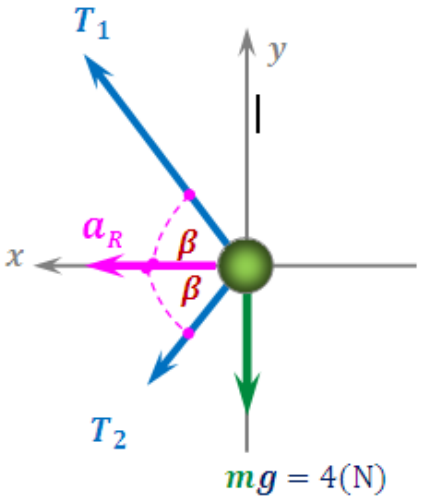
$$(T_1 + T_2)\cos\beta = m\omega^2 R$$

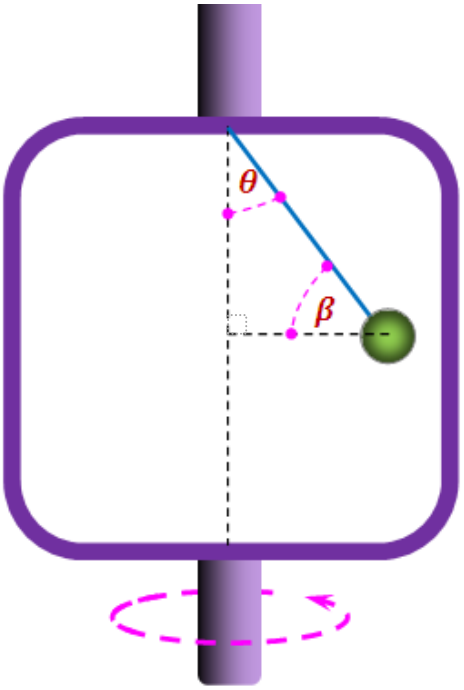
$$(T_1 + T_2)0.6 = 0.4 \cdot (4\pi)^2 \cdot 0.3$$

$$\Sigma \vec{F}_y = 0$$

$$(T_1 - T_2)\sin\beta - mg = 0$$

$$(T_1 - T_2)0.8 - 4 = 0$$





$\cos\theta = 0.8 = \sin\beta$

$\sin\theta = 0.6 = \cos\beta$

$\omega = ?? \quad R = 0.3(m)$

$$\Sigma \vec{F}_x = m\vec{a}_R$$

$$T_1\cos\beta = m\omega^2 R$$

$$T_1 \cdot 0.6 = 0.4 \cdot \omega^2 \cdot 0.3$$

$$\Sigma \vec{F}_y = 0$$

$$T_1\sin\beta - mg = 0$$

$$T_1 \cdot 0.8 - 4 = 0$$