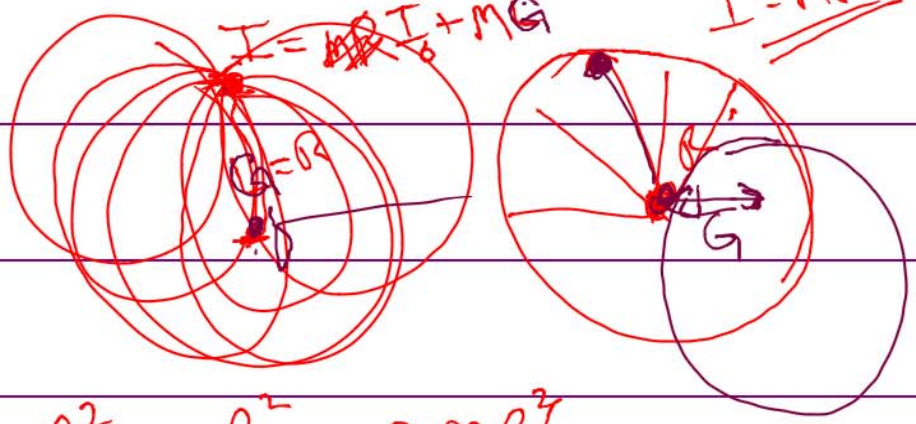
$$T = 2\pi \sqrt{\frac{I}{mLg}}$$

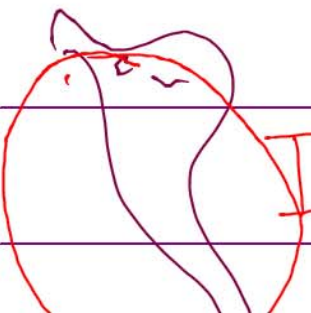
parallel axes theorem

$I = I_0 + mG^2$

$I \sim m/r$

$I = mR^2$





$I = mR^2 + mR^2 = 2mR^2$

$T = \sqrt{\frac{2mR^2}{mgR}}$

$D = 2R$

$T = 2\pi\sqrt{\frac{D}{g}}$

$\pi^2 \simeq 10 = 1$

$g \simeq 10$

$\frac{\pi}{\sqrt{g}} \simeq \sqrt{1} = 1$

$T = \frac{2\pi}{\sqrt{g}} D^{1/2}$

$T \simeq 2 D^{1/2}$

$T = 2\sqrt{2} R^{1/2}$

$R_1 = 40\,cm$

$R_2 = 120\,cm$

$T_2 = \sqrt{3}\, T_1$

$\simeq 1.73\, T_1$