



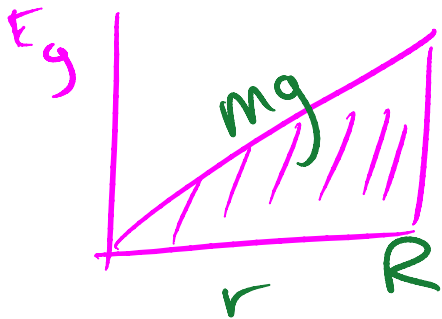
$$F_g = \frac{GMm}{r^2}$$

$$e = \frac{M}{v}$$

$$m = e \frac{v}{r^3}$$

$$F_g = Cr$$

$$C = \frac{4}{3}\pi \rho m$$



$$\omega = 2\pi \sqrt{\frac{\text{inertia}}{\text{force constant}}}$$

← m
←

$$\frac{1}{2}mv^2 = \frac{1}{2}Rmg = 84 \text{ min (simple harmonic motion)}$$

$$v = \sqrt{gR}$$

assumes uniform density

write up on Pretty Good Physics
under gravity with video