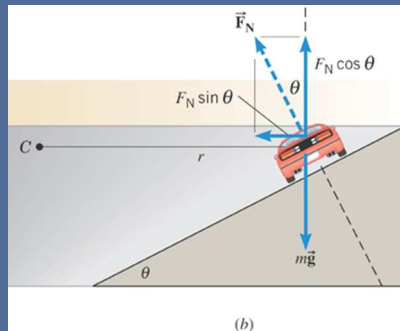


BANKED CURVE



$$\tan \theta = \frac{v^2}{rg}$$

SATELITES IN CIRCULAR ORBITS

$$F_c = G \frac{mM_E}{r^2} = m \frac{v^2}{r}$$

$$T = \frac{2\pi r^{3/2}}{\sqrt{GM_E}}$$

$$v = \sqrt{\frac{GM_E}{r}} \quad \Rightarrow \quad v = \sqrt{\frac{GM_E}{r}} = \frac{2\pi r}{T}$$

ROTATIONAL KINETIC ENERGY

$$KE_R = \frac{1}{2} I \omega^2$$

CONSERVATION OF ENERGY

$$\frac{1}{2} m v_f^2 + \frac{1}{2} I \omega_f^2 + m g h_f = \frac{1}{2} m v_i^2 + \frac{1}{2} I \omega_i^2 + m g h_i$$

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