

Unit Analysis

$$\text{velocity} = \frac{\Delta s}{\Delta t} = \left[\frac{m}{s} \right]$$

$$\text{acceleration} = a = \frac{\Delta v}{\Delta t} = \frac{\frac{m}{s}}{s} = \frac{m}{s} \cdot \frac{1}{s} = \frac{m}{s^2}$$

$$a = -9.8 \frac{m}{s^2}$$

$$\Sigma F_{on} = ma_{com} = kg \frac{m}{s^2} = \frac{kgm}{s^2} = \text{Newton} = N$$

$$\text{Torque} = Fd_{\perp} = Nm = \frac{kgm}{s^2} \cdot \frac{m}{1} = \frac{kgm^2}{s^2}$$