Static Equilibrium and Center of Mass

⌒ Gravitational Force   Weight = mg

$$r_{cm} = \frac{\sum r_i m_i}{\sum m_i}$$

- Acts as force at center of mass

- Torque about pivot due to gravity $\tau = mgd$ (non-zero!)

- Object not in static equilibrium

pivot →

d

Center of mass ←

W=mg