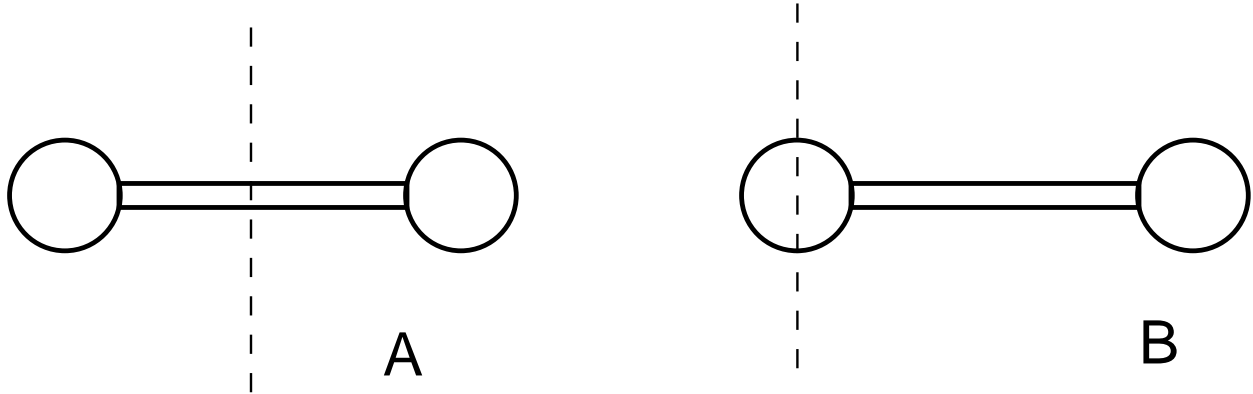


Parallel-Axis Theorem

○ Consider a rigid body consisting of 2 balls of mass \mathbf{m} connected by a massless rod of length \mathbf{L} . Compute I .



$$A) : I_{cm} = m \left(\frac{L}{2} \right)^2 + m \left(\frac{L}{2} \right)^2 = \frac{1}{2} m L^2$$

$$B) : I = I_{cm} + M h^2 = \frac{1}{2} m L^2 + (m + m) \left(\frac{L}{2} \right)^2 = m L^2$$

$$\text{or } I = m(0)^2 + m(L)^2 = m L^2$$