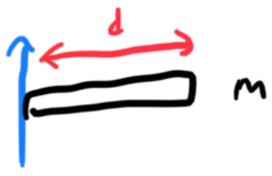
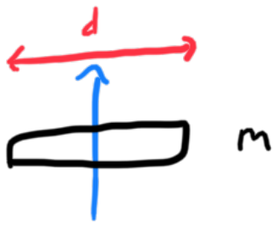
Moments of Inertia

$I_{point} = 1\, mr^2 = I_{ring}$ (how?)



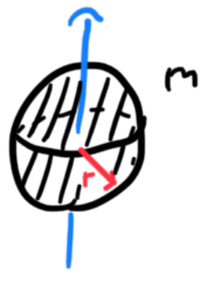
$I_{end} = \frac{1}{3} m d^2$



$I_{ctr} = \frac{1}{12} m d^2$

$I_{disk} = \frac{1}{2} m r^2$

$I_{hollow} = \frac{2}{3} m r^2$



$I_{solid} = \frac{2}{5} m r^2$

Extruding symmetric shapes in $\hat{z}$ (along axis of rotation) does not change I.

Moments depend solely on distribution of mass and distance of each element (chunk) from axis.