

Rolling Act

- Two uniform cylinders are machined out of solid aluminum. One has twice the radius of the other.

→ If both are placed at the top of the same ramp and released, which is moving faster at the bottom?

(a) bigger one

(b) smaller one

(c) same

$$K_i + U_i = K_f + U_f$$

$$MgH = \frac{1}{2}I\omega^2 + \frac{1}{2}MV^2$$

$$MgH = \frac{1}{2}\left(\frac{1}{2}MR^2\right)\frac{V^2}{R^2} + \frac{1}{2}MV^2$$

$$V = \sqrt{\frac{4}{3}gH}$$

