

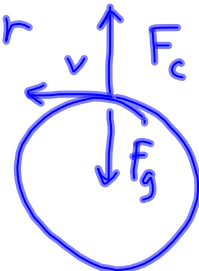
$$\frac{1}{2}mv_1^2 + mgh_2 = \frac{1}{2}mv^2 + mg \cdot 2r$$

$v_1 = 0$

$$v^2 = 2g(h_2 - 2r)$$

$$\frac{v^2}{r} > g$$

$$\frac{2g(h_2 - 2r)}{r} > g$$



$$F_c > F_g$$

$$\frac{mv^2}{r} > mg$$

$$2gh_2 - 4gr > gr$$

$$2gh_2 > 5gr$$

$$\frac{2}{5}h_2 > r$$

$$r < \frac{2}{5}h_2$$

$$2r < \frac{4}{5}h_2$$

