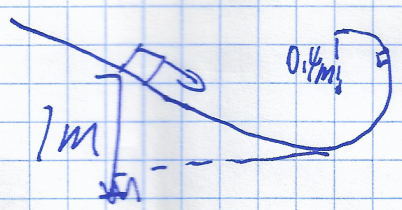
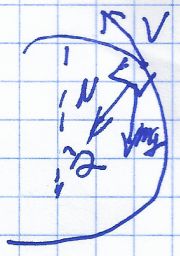
Динамика

1.





$mg\cos\alpha = ma$

$$\begin{cases} a = \frac{v^2}{R} \end{cases}$$

$$\Rightarrow v = \sqrt{gR\cos\alpha}$$

$$\cos\alpha = \frac{h-R}{R}$$

$$v = \sqrt{g(h-R)} \quad ①$$

$$mgH = mgh + \frac{1}{2}mv^2$$

$$v^2 = 2g(H-h) \quad ②$$

① и ②: $g(h-R) = 2g(H-h)$

$$h = \frac{2H+R}{3} = 0.8m$$