

Frača

$$A = \Delta W_k + \Delta W_p = \frac{1}{2}mv_0^2 - mg\frac{x}{\sqrt{2}} \quad (1)$$

$$v_0 = \sqrt{\frac{gd^2}{h+d}} \quad (2)$$

$$k \cdot \Delta l = k' \cdot \frac{\Delta l}{2}$$

$$\alpha = \arctan(a/x) \quad k' = 2k \quad l = \frac{2a}{\sin \alpha}$$

$$F' = k' \frac{\Delta l}{2} \quad \Delta l = l - l_0 \quad F = 2F' \cdot \cos \alpha$$

$$dA = F(x)dx = 2k(\Delta l) \cdot \Delta l \cos \alpha \cdot dx = \quad (3)$$

$$= 2ak(\Delta l) \cdot \Delta l \frac{1}{\tan^2 \alpha \cdot \cos \alpha} \cdot d\alpha$$

$$k(\Delta l) = \frac{dA}{d\alpha} \cdot \frac{\tan^2 \alpha \cdot \cos \alpha}{2a\Delta l} \quad (4)$$

Voziček

$$A = \Delta W_k = \frac{1}{2}mv_k^2 \quad (5)$$

$$dA = k(\Delta l)\Delta l d\Delta l \quad (6)$$

$$k(\Delta l) = \frac{dA}{\Delta l d\Delta l} \quad (7)$$

Uteži, video

$$F = k(\Delta l) \cdot \Delta l \Rightarrow k(\Delta l) = \frac{F}{\Delta l} \quad (8)$$

$$F = mg \quad (9)$$

Dodatne