

226. Pločica mase 100g gurne se brzinom 4m/s uz kosu dasku. Maksimalna visina do koje stigne je 50cm, a put koji pri tome predje iznosi 1m. Kolika sila trenja deluje na pločicu?

$$m = 100g = 0.1kg$$

$$V = 4 \frac{m}{s}$$

$$h = 0.5m$$

$$s = 1m$$

$$\frac{mV^2}{2} = mgh + F_{tr} \cdot s$$

$$F_{tr} \cdot s = \frac{mV^2}{2} - mgh$$

$$F_{tr} = \frac{\frac{mV^2}{2} - mgh}{s}$$

$$F_{tr} = \frac{mV^2 - 2mgh}{2s}$$

$$F_{tr} = \frac{0.1kg \left(4 \frac{m}{s}\right)^2 - 2 \cdot 0.1kg \cdot 10 \frac{m}{s^2} \cdot 0.5m}{2 \cdot 1m}$$

$$F_{tr} = \frac{1.6kg \frac{m^2}{s^2} - 1 \frac{m^2}{s^2}}{2m}$$

$$F_{tr} = 0.3kg \frac{m}{s^2}$$

$$F_{tr} = 0.3N$$