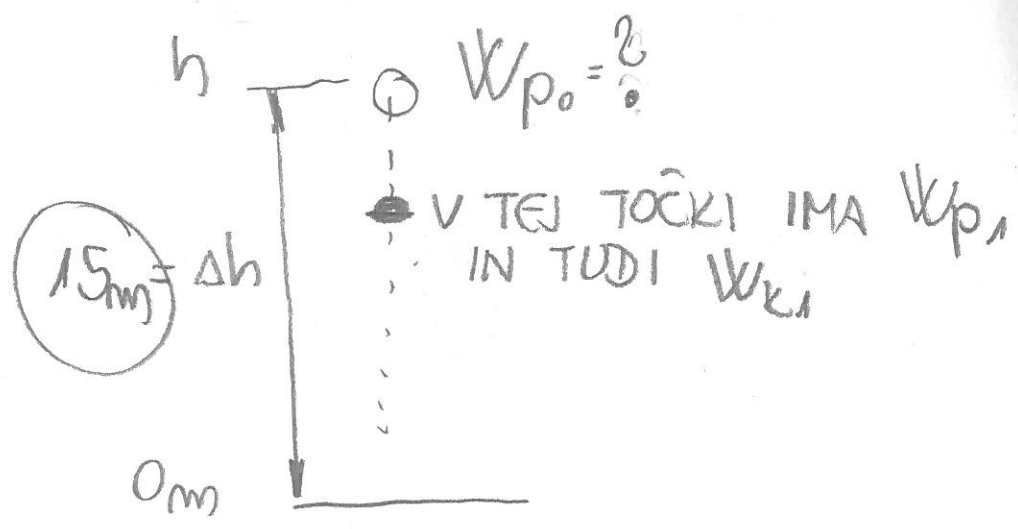


Rezultve: 2. teden

I) ① Kroglo z maso ...

$$m = 2 \text{ kg}$$
$$v_1 = 10 \frac{\text{m}}{\text{s}}$$
$$W_{p1} = 200 \text{ J}$$



a) $h_0 = ?$

$$W_{p1} = 200 \text{ J}$$
$$W_{k1} = ? = \frac{m \cdot v_1^2}{2} = \frac{2 \text{ kg} \cdot 100 \left(\frac{\text{m}}{\text{s}}\right)^2}{2} = 100 \text{ J}$$

~ celotna energija se ne spreminja
~ v vsaki točki je enaka vsoti W_p in W_k

$$W_1 = W_{p1} + W_{k1} = 300 \text{ J}$$

tolikšno energijo ima tudi na začetku
na koncu in vmes!

$$W_{p0} = m \cdot g \cdot \Delta h \Rightarrow \Delta h = \frac{W_{p0}}{m \cdot g} = \frac{300 \text{ J}}{2 \text{ kg} \cdot 10 \frac{\text{m}}{\text{s}^2}} = 15 \text{ m}$$

$\rightarrow N \cdot m = \text{kg} \frac{\text{m}}{\text{s}^2} \cdot \text{m}$

b) $W_{k2} = 300 \text{ J}$

$$W_{k2} = \frac{m \cdot v^2}{2} \Rightarrow v = \sqrt{\frac{2 \cdot W_k}{m}} = \sqrt{\frac{600}{2}} = \sqrt{300} = 17,3 \frac{\text{m}}{\text{s}}$$

$$2) v_0 = 20 \frac{\text{m}}{\text{s}}$$

$$m = 1 \text{ kg}$$

 W_{k1}


$$\text{O } W_{k0} =$$

a) Na začátku:

• imma samo $W_{k0} = \frac{m \cdot v_0^2}{2} = \frac{1 \cdot 400}{2} = 200 \text{ J}$

$$W_{p0} = 0 \text{ J}$$

• na 2m imma $W_p = m \cdot g \cdot h = 1 \text{ kg} \cdot 10 \frac{\text{m}}{\text{s}^2} \cdot 2 \text{ m} = 20 \text{ J}$

• torej imma $W_k = 180 \text{ J}$; $v = \sqrt{\frac{2 \cdot W_k}{m}} = \sqrt{\frac{360}{1}} = 19,8 \frac{\text{m}}{\text{s}}$

$h [\text{m}]$	$v [\frac{\text{m}}{\text{s}}]$	$W_p [\text{J}]$	$W_k [\text{J}]$	ΣW
0	20	0	200	200
2	19,8	20	180	200
4	17,8	40	160	200
8	15,5	80	120	200

itd.

$$W_p = m \cdot g \cdot h = 40 \text{ J}$$

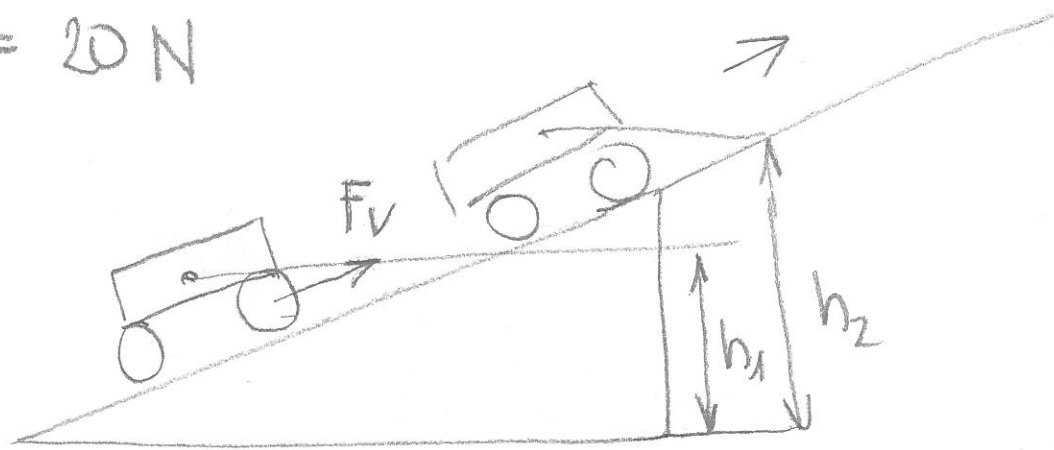
$$W_k = 160 \text{ J}$$

$$v_4 = \sqrt{\frac{2 \cdot W_k}{m}} = \sqrt{320} = 17,8$$

$$v_8 = \sqrt{\frac{2 \cdot 120}{1}} = \sqrt{240} = 15,5$$

$$\textcircled{3} F_v = 20 \text{ N}$$

c)



- F_v - opravljata delo, ki gre v spremembo W_p in prav tako v ΔW_k
saj ΣF NI ENAKA $\phi \leftarrow$ TELO SE

GIBLJE S A!

$$\boxed{A = \Delta W_p + \Delta W_k}$$

$$\text{b) } r = 60 \text{ m}$$

$$\Delta W_k = 700 \text{ J}$$

$$\Delta W_p = ?$$

$$F = 20 \text{ N}$$

$$A = \Delta W_p + \Delta W_k$$



$$F \cdot r = \Delta W_p + \Delta W_k$$

$$60 \cdot 20 = \Delta W_p + 700 \text{ J}$$

$$+ 1200 \text{ J} = \Delta W_p + 700 \text{ J}$$

$$\Delta W_p = 1200 \text{ J} - 700 \text{ J}$$

$$\boxed{\Delta W_p = 500 \text{ J}}$$