$$1\,J = 1\,Ws$$

$$1\,kWh = 1000\,W \cdot 3600\,s = 3600000\,Ws = 3600\,kJ$$

$$1\,kWh = 3{,}6\,MJ$$

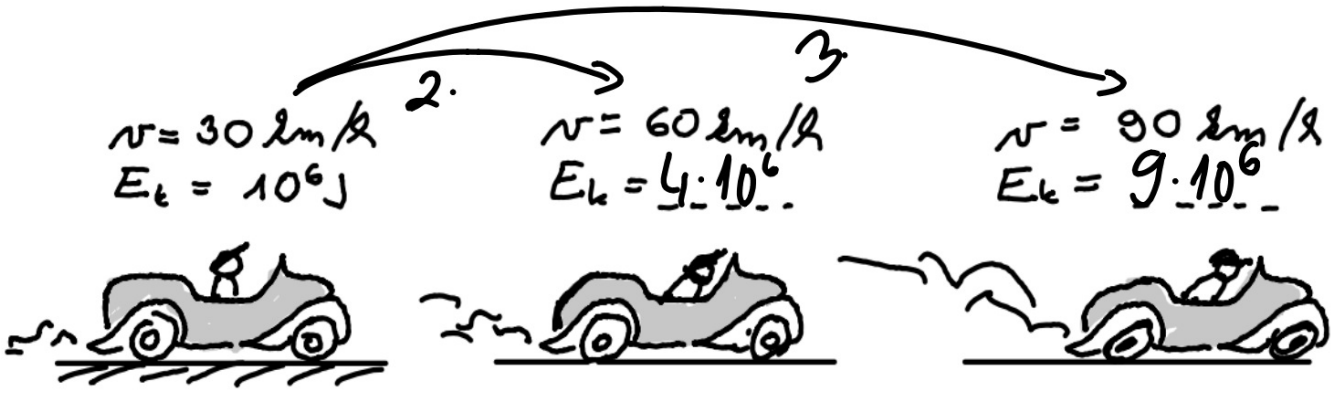
$$216\,kJ = \frac{216}{3600}\,kWh = 0{,}06\,kWh$$

$$54\,MJ = \frac{54}{3{,}6}\,kWh = 15\,kWh$$

$$0{,}324\,GJ = 324\,MJ = \frac{324}{3{,}6}\,kWh = 90\,kWh$$

$$1\,kWh = 3{,}6\,MJ = 3600\,kJ = 3\,600\,000\,J$$

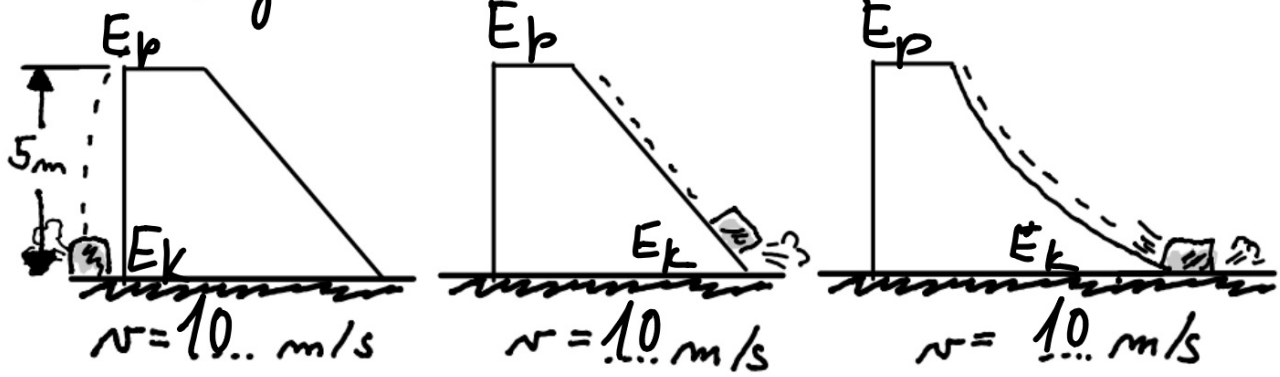
$E_k = \frac{1}{2} m v^2$ $\quad 2 \cdot 1000\,000 = 2\,000\,000 = 2 \cdot 10^6$

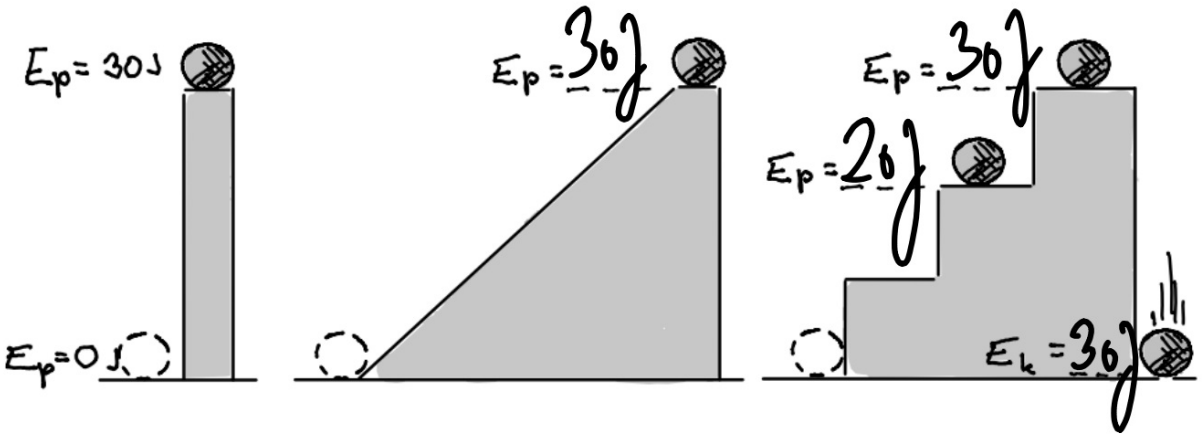


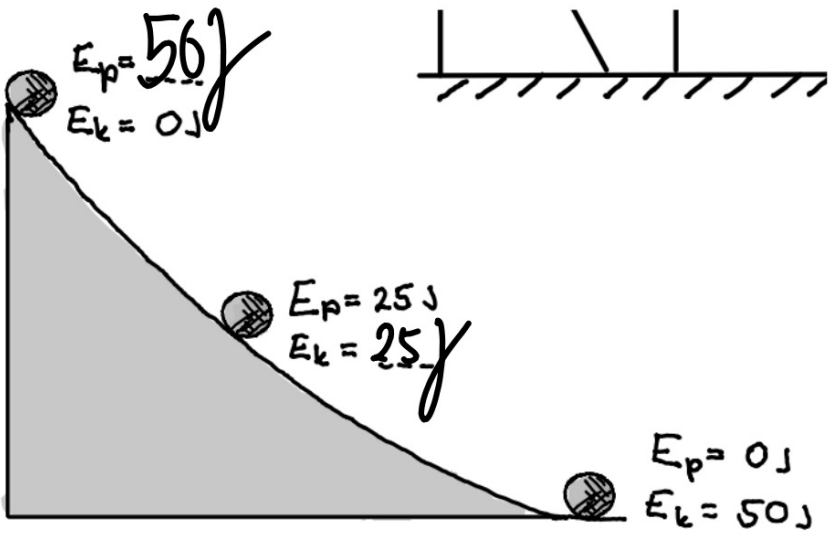
$$E_k = E_p$$

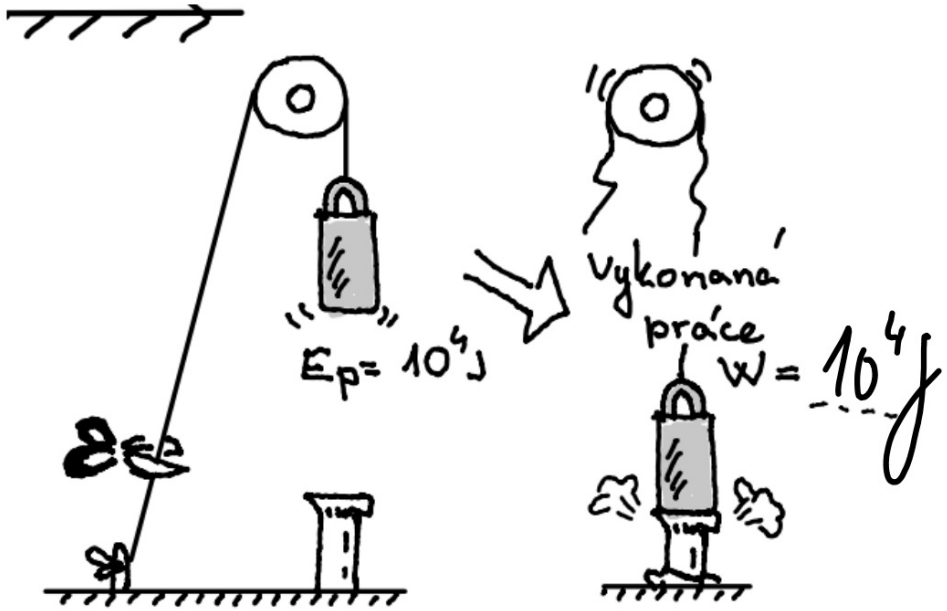
$$\frac{1}{2}mv^2 = mgh$$

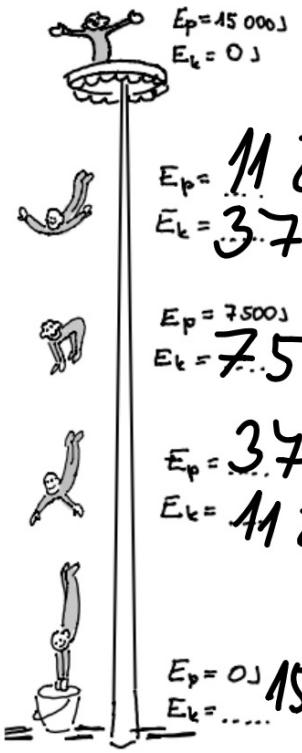
$$v = \sqrt{2gh} = \sqrt{2 \cdot 10 \cdot 5} = 10$$




$E_p = 30J$
$E_p = 0J$
$E_p = 30J$
$E_p = 30J$
$E_p = 20J$
$E_k = 30J$


$E_p = 50\,J$
$E_k = 0\,J$
$E_p = 25\,J$
$E_k = 25\,J$
$E_p = 0\,J$
$E_k = 50\,J$


$E_p = 10^4 J$
Vykonaná práce
$W = 10^4 J$



10 000 J

5 000 J

5000 J

10 000 J

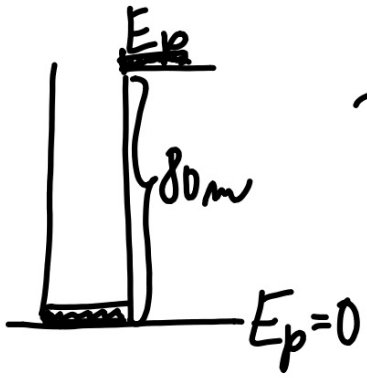
15000 J

$h = 80\,m$

$V = 160\,m^3$

$P = ?\,W$

$t = 1\,h$



$$P = \frac{W}{t} = \frac{E_p}{t} = \frac{mgh}{t}$$