1 Czas

$\Delta h = 1\,\mathrm{cm}$
$l = 14.5\,\mathrm{cm}$

$t = ?$

$s = \frac{1}{2}at^2 \;\Rightarrow\; t = \sqrt{\frac{2s}{a}} = \sqrt{\frac{0.29}{a}}$
$a = g\frac{\Delta h}{l} = 9.81 \times \frac{0.01}{0.145} \approx 0.67$
$t = \sqrt{\frac{0.29}{a}} = \sqrt{\frac{0.29}{0.67}} \approx 0.43\,\mathrm{s}$

2 Energia

$m = 0.0084\,\mathrm{kg}$
$h_1 = 0.04\,\mathrm{m}$
$h_2 = 0.03\,\mathrm{m}$
$l = 0.145\,\mathrm{m}$

$E_1 = E_{1_k} + E_{1_p}$
$E_1 = 0 + mgh = 8.4 \times 9.81 \times 0.04 = 3.29\,\mathrm{mJ}$

$E_2 = E_{2_k} + E_{2_p}$
$E_{2_k} = ma \times l = 0.0084 \times 0.67 \times 0.145 \approx 0.816\,\mathrm{mJ}$
$E_{2_p} = mgh = 0.0084 \times 9.81 \times 0.03 \approx 2.472\,\mathrm{mJ}$
$E_2 = 2.472 + 0.816 \approx 3.29\,\mathrm{mJ}$