ⓐ $2.2m - 0.270m = 1.93m.$

$$\tfrac{1}{2}mv^2 = \tfrac{1}{2}k\Delta x^2$$

$$v = \sqrt{\frac{k\Delta x^2}{m}}$$

~~d~~ $d = vt$

$$\frac{d_1}{v_1} = \frac{d_2}{v_2}$$

sub. →

$$\frac{d_1}{\sqrt{\frac{k\Delta x^2}{m}}} = \frac{d_2}{\sqrt{\frac{k\Delta x^2}{m}}} \longrightarrow \frac{d_1}{\Delta x_1} = \frac{d_2}{\Delta x_2}$$

$$\frac{\Delta x_2 d_1}{\Delta x_1} = d_2$$

$$\Delta x_2 d_1 = d_2 \Delta x_1$$

$$\Delta x_2 = \frac{d_2 \Delta x_1}{d_1}$$

$$\Delta x_2 = \frac{(2.2)(0.011)}{1.93}$$

$$\Delta x_2 = 0.0125 \, m.$$

$$\boxed{\Delta x_2 = 1.25 \, cm.}$$

$R = 0.2m. \quad \mu = 2kg.$

⑩

$h = 3m.$

PE₁
Initial: $3mg$
KE: 0