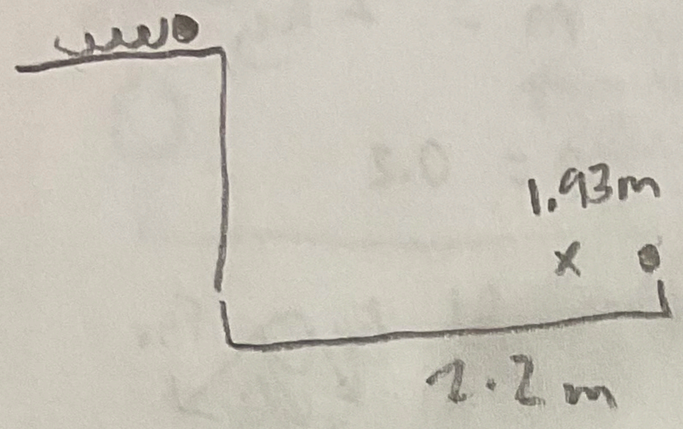
9.



$\frac{1}{2}kx^2 = \frac{1}{2}mv_1^2$

$\frac{1}{2}kd_2^2 = \frac{1}{2}mv_2^2$

$d_2 = v_2$

$d_2 = v_2$

$1.93 = v_1 t$

$2.2 = v_2 t$

$\frac{2.2}{v_2} = t$

$1.93 = v_1\left(\frac{2.2}{v_2}\right)$

$\frac{1.93\,v_2}{2.2} = v_1$

$v_2 = 1.14\,v_1$

$d_2 = 1.14\,d_1$

$\boxed{d = 1.26\ cm}$