Nahuel Chen   1250

9. $F = ma$

$\begin{cases} kX_1 = ma_1 \\ kX_2 = ma_2 \end{cases}$ $\therefore v_f^2 = 2aX$

$\therefore \begin{cases} 0.011 \text{am} \quad K = m\dfrac{2vf}{2.2-0.27} \quad ① \\[4mm] X_2 k = m\dfrac{2vf'}{2.2} \quad ② \end{cases}$

$\therefore$ ②/① $= \dfrac{X_2}{0.011} = \dfrac{vf}{vf'}\left(\dfrac{2.2}{1.93}\right)$

$\therefore v_f = \sqrt{\dfrac{2gh}{m}}$ since $mgh = \frac{1}{2}mv_f^2$

$\therefore X_2 = \left(\dfrac{2.2\frac{m}{\text{s}}}{1.93\frac{m}{\text{s}}}\right) \times 0.011 \frac{m}{\text{cm}}$

$= 0.0125\,m$

$= 1.25\,cm$

$\therefore v_f = vf'$

$m g \sin\theta$

$\sum 10A - f = ma$