9) $\frac{1}{2}kx^2 + mgh = \frac{1}{2}mv^2$ at $x = 0.011\,m$

$\frac{1}{2}k(0.011)^2 + mgh$ $\quad$ $\frac{1}{2}k(0.011)^2 + m(10)(h) = \frac{1}{2}mv^2$

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

$\frac{1}{2}k(0.011)^2 + mgh = \frac{1}{2}mv^2$

$v_f^2 = v_i^2 + 2ad$

$= P\, v_f^2 = 38.6$

$v_f = 6.213\ m/s$

$d = 2.2 - .27 = 1.93$

$= 1.93$

$\frac{1}{2}k(0.011)^2$

$\frac{1}{2}kx^2 + mgh = \frac{1}{2}mv^2$ $\quad h = \frac{1}{2}gt^2$

$\frac{1}{2}(10)t$

1.93

$d = vt$

$t = \frac{d}{v}$ $\quad h = \frac{1}{2}g\left(\frac{d}{v}\right)^2 =$

$\frac{1}{2}k(0.011)^2 + mg(3.725) = \frac{1}{2}mv^2$