Q9

$PE = KE$

$\frac{1}{2} k x^2 = \frac{1}{2} m v^2$

$v = \sqrt{\frac{kx^2}{m}}$

$\Delta x = \Delta v \, \Delta t$

$\Delta x = \sqrt{\frac{kx^2 2h}{mg}}$

$(22 - 0.27)$

$1.93 = \sqrt{\frac{kx^2 2h}{mg}}$ (constant)

$\Delta x = \sqrt{x^2}$

$1.93 = \sqrt{0.011^2}$

$\Delta v = \frac{\Delta x}{\Delta t}$

here,

$\Delta x = \Delta v \, \Delta t$

$t = \sqrt{\frac{2h}{g}}$

$1.93 \text{ cm} = \sqrt{\frac{k \times (0.011)^2 2h}{m \, 9.8}}$ (constant)

$1.93 = \sqrt{\cdot}$

Using ratio:

1.25

1.25 cm