



Springs

Solution:

The spring is pulled back 5.9 inches or 15 cm

$$PE = KE. \text{ Therefore, } \frac{1}{2}kx^2 = \frac{1}{2}mv^2, \quad \text{or } kx^2 = mv^2$$

$$v^2 = \frac{kx^2}{m} = \frac{325 \text{ N/m } x^2}{80g}$$

If $x = 5.9$ inches, or 15 cm, or 0.15m,

$$v^2 = \frac{kx^2}{m} = \frac{325 \text{ N/m } (0.15\text{m})^2}{0.08\text{kg}} = 91.4 \frac{\text{m}^2}{\text{s}^2}$$

$$V = 9.56 \text{ m/sec}$$