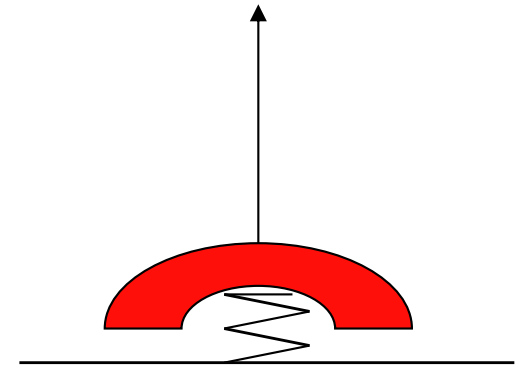


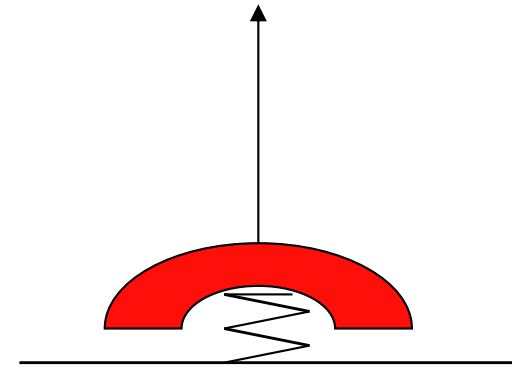
Problem 13.11

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This is a conservation of energy problem.

$$\sum KE_1 + \sum U_1 + \sum W_{\text{ext}} = \sum KE_2 + \sum U_2$$

$$0 + \frac{1}{2}kx^2 + 0 = 0 + mgh$$

$$\Rightarrow k = \frac{2mgh}{x^2}$$

$$\Rightarrow k = \frac{2(.1 \text{ kg})(9.8 \text{ m/s}^2)(.6 \text{ m})}{(.02 \text{ m})^2}$$

$$\Rightarrow k = 2940 \text{ kg/s}^2 \quad (\text{which is a N/m})$$