

20. The spring constant is $k = 100 \text{ N/m}$ and the maximum elongation is $x_i = 5.00 \text{ m}$. Using Eq. 7-25 with $x_f = 0$, the work is found to be

$$W = \frac{1}{2}kx_i^2 = \frac{1}{2}(100)(5.00)^2 = 1.25 \times 10^3 \text{ J} .$$