The Physics of Energy, Explained Simply
&
The Physics of Energy For Beginners

Elastic Potential Energy Questions - Answers

Equation: $EPE = \frac{1}{2} kx^2$

k = Spring Stiffness (Newtons per Metre, N/m)
x = Extension or Compression (Metre, m)

1. $EPE = 0.5 \times 200 \text{ N/m} \times (0.3 \text{ m})^2 = 9.0 \text{ J}$

2. $EPE = 0.5 \times 50 \text{ N/m} \times (0.2 \text{ m})^2 = 1.0 \text{ J}$

3. $EPE = 0.5 \times 150 \text{ N/m} \times (0.1 \text{ m})^2 = 0.75 \text{ J}$

4. $EPE = 0.5 \times 300 \text{ N/m} \times (0.05 \text{ m})^2 = 0.38 \text{ J}$

5. $EPE = 0.5 \times 100 \text{ N/m} \times (0.25 \text{ m})^2 = 3.12 \text{ J}$

6. $EPE = 0.5 \times 80 \text{ N/m} \times (0.4 \text{ m})^2 = 6.4 \text{ J}$

7. $EPE = 0.5 \times 250 \text{ N/m} \times (0.12 \text{ m})^2 = 1.8 \text{ J}$

8. $EPE = 0.5 \times 60 \text{ N/m} \times (0.15 \text{ m})^2 = 0.67 \text{ J}$

9. $EPE = 0.5 \times 20 \text{ N/m} \times (0.02 \text{ m})^2 = 0.0 \text{ J}$

10. $EPE = 0.5 \times 180 \text{ N/m} \times (0.3 \text{ m})^2 = 8.1 \text{ J}$

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