3/8 Ch12 Energy

Potential Energy

- Elastic Potential Energy - rubber band
- Gravitational P. E.

Calculate: GPE = Weight x height
(Joules) = (Newtons) x (m)

1. x 40 / 0.8 / 32 N·m (J)

2. 500 N / 10 m / 5,000 N·m

1 lb = 4.45 N

3. N·M

x 600 / 8 / 4800 (J)

3.

Kinetic Energy

$KE = \frac{m \times v^2}{2}$ $\frac{(Kg. \text{ or } g.)\ (mph, km/h, m/s)^2}{2}$

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$\times \frac{600}{8}$

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$$\boxed{K.E} = \frac{\text{mass} \times \text{velocity}^2}{2}$$

1.

2.

$4000 \quad 2^2$

4000×4

$16000 \quad \underline{8000\,J}$

3.

$$\frac{2000 \times 30^2}{2}$$

2000×900

$\underline{1,800,000}$

2

$900,000\,J$

4.

$$\frac{3,000 \cdot 20^2}{2}$$

$\underline{3,000 \times 1,200}$

$1,200,000 \div 2$

$600,000\,J$