

Solutions

Each answer shows the steps, then the **result**.

2.1

- 50 eV

2.2

- $3.0 \times 1.6 \times 10^{-19} = 4.8 \times 10^{-19} \text{ J}$

2.3

- $\Delta KE = q \Delta V = (2.0 \times 10^{-6})(300) = 6.0 \times 10^{-4} \text{ J}$

3.1 B

3.2 B

3.3

(a)

- $\Delta KE = q \Delta V = (1.6 \times 10^{-19})(500) = 8.0 \times 10^{-17} \text{ J}$

(b)

- $\frac{1}{2}mv^2 = 8.0 \times 10^{-17} \Rightarrow v = \sqrt{\frac{2(8.0 \times 10^{-17})}{1.67 \times 10^{-27}}} = 3.1 \times 10^5 \text{ m s}^{-1}$