

Solutions

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

2.1

- $v = 0 + 2.0(6.0) = 12 \text{ m s}^{-1}$

2.2

- $\Delta x = \frac{1}{2}(2.0)(6.0)^2 = 36 \text{ m}$

2.3

(a)

- acceleration

(b)

- displacement

2.4

- $v = 9.8(3.0) = 29.4 \text{ m s}^{-1}$

3.1 B

3.2 B

- the speed is zero at the top but gravity still acts downward

3.3

(a)

- $v^2 = v_0^2 + 2a \Delta x \Rightarrow 0 = 25^2 + 2a(50)$, so $a = -6.25 \text{ m s}^{-2}$

(b)

- $t = \frac{0 - 25}{-6.25} = 4.0 \text{ s}$

3.4

(a)

- $t = \frac{20}{10} = 2.0 \text{ s}$

(b)

- $h = \frac{v_0^2}{2g} = \frac{20^2}{20} = 20 \text{ m}$