

Solutions

Award method and answer marks as indicated; accept equivalent correct methods.

2.1

- $l_1 = 2.7(1000) = \mathbf{2700}$ m; $l_2 = 48/10 = \mathbf{4.8}$ cm.

2.2

- $A = 6200/100^2 = \mathbf{0.62}$ m².

2.3

- $V = 0.008(100)^3 = \mathbf{8000}$ cm³.

2.4

- $V = 2.35(1000) = \mathbf{2350}$ ml; $m = 4500/1000 = \mathbf{4.5}$ kg.

3.1

(a)

- $V = 0.075(1000) = \mathbf{75}$ litres.

(b)

- $N = 75000/250 = \mathbf{300}$ bottles.

(c)

- $A = 18(10)^2 = \mathbf{1800}$ mm².

3.2

(a)

- $V_L = 1000V_m = 1000(0.024) = \mathbf{24}$ litres.
- Each bottle is 0.75 litres, so $N = 24/0.75$, giving **32 bottles**.

(b)

- Each metre contains 100 cm, so the area factor is 100^2 .
- $A_{\text{cm}^2} = 0.015(100)^2$, giving **150 cm²**.