

Example 1.1

Solve the following:

(a) $5.123 \times 10^4 \text{ m} + 3.28 \times 10^5 \text{ m}$

Solution:-

$$= 5.123 \times 10^4 \text{ m} + 3.28 \times 10^5 \text{ m}$$

$$= 5.123 \times 10^4 \text{ m} + 32.8 \times 10^4 \text{ m}$$

$$= (5.123 + 32.8) 10^4 \text{ m}$$

$$= 37.923 \times 10^4 \text{ m}$$

$$= 3.7923 \times 10^5 \text{ m}$$

Ans

(b) $2.57 \times 10^{-2} \text{ mm} - 3.43 \times 10^{-3} \text{ mm}$

Solution:-

$$= 2.57 \times 10^{-2} \text{ mm} - 3.43 \times 10^{-3} \text{ mm}$$

$$= 2.57 \times 10^{-2} \text{ mm} - 0.343 \times 10^{-2} \text{ mm}$$

$$= (2.57 - 0.343) \times 10^{-2} \text{ mm}$$

$$= 2.227 \times 10^{-2} \text{ mm}$$

$$= 2.227 \times 10^{-2} \times 10^{-3} \text{ m}$$

$$\therefore \text{m} = 10^{-3}$$

$$= 2.227 \times 10^{-5} \text{ m}$$

Ans

Example 1.2

Find the value of each of the following quantities.

(a) $(4 \times 10^3 \text{ Kg}) (6 \times 10^6 \text{ m})$

Solution:-

$$\begin{aligned} &= (4 \times 10^3 \text{ Kg}) (6 \times 10^6 \text{ m}) \\ &= 4 \times 6 \times 10^3 \times 10^6 \text{ Kg m} \\ &= 24 \times 10^{3+6} \text{ Kg m} \\ &= 24 \times 10^9 \text{ Kg m} \\ &= 2.4 \times 10^{10} \text{ Kg m} \end{aligned}$$

Ans

(b) $\frac{6 \times 10^6 \text{ m}^3}{2 \times 10^{-2} \text{ m}^2}$

Solution:-

$$\begin{aligned} &= \frac{6 \times 10^6 \text{ m}^3}{2 \times 10^{-2} \text{ m}^2} \\ &= \frac{6}{2} \times 10^{6+2} \text{ m}^{3-2} \\ &= 3 \times 10^8 \text{ m} \end{aligned}$$

Ans