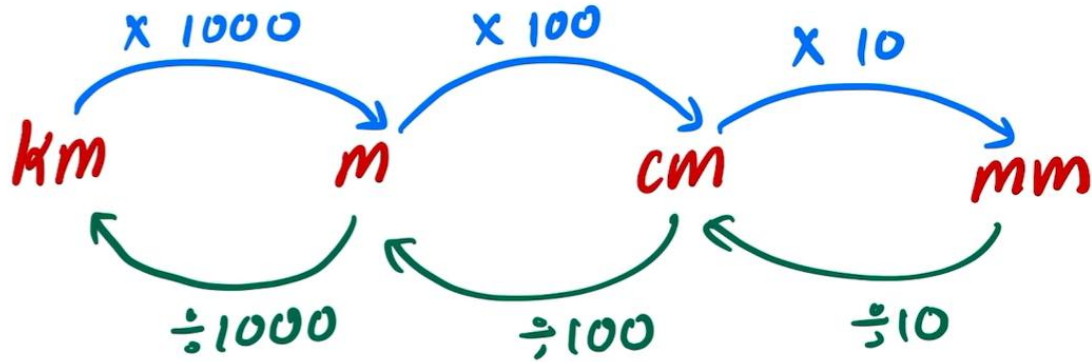


Time conversions

$$\odot 1 \text{ hr} = 60 \text{ min} = 3600 \text{ sec}$$

$$\odot \frac{1 \text{ km}}{\text{hr}} = \frac{1 \times 1000 \text{ m}}{3600 \text{ sec}} = \frac{5}{18} \text{ m/s}$$

most common conversion



$$1 \text{ mL} = 1 \text{ cm}^3 = 1 \text{ cc}$$

$$1 \text{ m}^3 = 1000 \text{ L}$$

$$0^\circ \text{C} = 273 \text{ K} \dots [K = C + 273]$$

$$1 \text{ Angstrom}(\text{\AA}) = 1 \times 10^{-10} \text{ m}$$

$$1 \text{ mol} = 6.02 \times 10^{23} \text{ particles}$$

$$1 \text{ cal} = 4.18 \text{ J}$$

$$1 \text{ atm} = 760 \text{ torr} = 760 \text{ mmHg} = 101.3 \text{ kPa}$$

$$1\text{Pa} = 1\text{N/m}^2 = 1\text{kg/m}\cdot\text{s}^2$$

$$1\text{mega} = 1 \times 10^6$$

$$1\mu\text{m} = 1 \times 10^{-6}\text{m} \rightarrow \text{micrometer}$$

$$1\text{nm} = 1 \times 10^{-9}\text{m} \rightarrow \text{nanometer}$$

$$1\text{fm} = 1 \times 10^{-15}\text{m} \rightarrow \text{femtometer}$$

$$1\text{pm} = 1 \times 10^{-12}\text{m} \rightarrow \text{picometer}$$

$$1\text{mm} = 10^{-3}\text{m} \rightarrow \text{millimeter}$$

* Point shifting *

Diagram illustrating point shifting for the number 43.28×10^5 :

- Shifting the decimal point to the left (labeled $(+ve)$):
 $4.328 \times 10^5 \times 10^1$
 4.328×10^6
- Shifting the decimal point to the right (labeled $(-ve)$):
 $432.8 \times 10^5 \times 10^{-1}$
 432.8×10^4

Indices

$$x^m \cdot x^n = x^{m+n}$$

$$\left| \begin{array}{l} \text{e.g} \\ 10^5 \times 10^4 = 10^{5+4} = 10^9 \end{array} \right.$$

$$\frac{1}{x^m} = 1 \times x^{-m}$$

$$\left| \begin{array}{l} \text{e.g} \\ \frac{2}{10^4} = 2 \times 10^{-4} \end{array} \right.$$

$$\frac{2}{10^{-4}} = 2 \times 10^4$$

⊕

$$\checkmark 3.4698 \times 10^{-4}$$

$$3.4698 \times 10^{-4} \times 10^2$$

$$\checkmark 3.4698 \times 10^{-2}$$

→ ⊖

$$0.00984 \times 10^5$$

$$9.84 \times 10^5 \times 10^{-3}$$

$$\boxed{9.84 \times 10^2}$$