

Units and Dimensions

Physical Quantities

- Scalars
- Vectors
- Tensors

- Fundamental / Base

⇒ Do not depend on each other

- Derived

Fundamental / Base

- ① Mass
- ② Length
- ③ Time
- ④ Temperature

⑤ Electric Current

⑥ Amount of Substance

⑦ Luminous Intensity

Supplementary Units

① Plane Angle

② Solid Angle

M

L

T

K / θ

A

mol

cd (candela)

rad (radian)

sr (steradian)

Unit conversion

$$n_1 u_1 = n_2 u_2$$

① $1 \text{ m} = 100 \text{ cm}$

② $0.2 \text{ cm} = 2 \text{ mm}$

$$1 \text{ N} = \times \text{ dyne}$$

$$1 \text{ kg} - \frac{\text{m}}{\text{s}^2} = \times \text{ g} - \frac{\text{cm}}{\text{s}^2}$$

$$1 \frac{(1000 \text{ g})(100 \text{ cm})}{\text{s}^2} = \times \frac{\text{g}(\text{cm})}{\text{s}^2}$$

$$10^5 = \times$$

$$1 \text{ N} = 10^5 \text{ dyne}$$

