

SI units

Base units

m (meter), *length*
A (ampere), *current*
mole, *substance*

kg (kilogram), *mass*
K (kelvin), *temperature*

s (second), *time*
cd (candela), *luminosity*

Angular measure

$$\text{rad} = 1$$

$$\text{deg} = \frac{\pi}{180} \cdot \text{rad}$$

$$\text{str} = 1 \cdot \text{str}$$

Length

$$\text{cm} = 0.01 \cdot \text{m}$$

$$\text{ft} = 0.3048 \cdot \text{m}$$

$$\text{mi} = 5280 \cdot \text{ft}$$

$$\text{km} = 1000 \cdot \text{m}$$

$$\text{in} = 2.54 \cdot \text{cm}$$

$$\text{mm} = 0.001 \cdot \text{m}$$

$$\text{yd} = 3 \cdot \text{ft}$$

Mass

$$\text{gm} = 10^{-3} \cdot \text{kg}$$

$$\text{mg} = 10^{-3} \cdot \text{gm}$$

$$\text{oz} = \frac{\text{lb}}{16}$$

$$\text{tonne} = 1000 \cdot \text{kg}$$

$$\text{ton} = 2000 \cdot \text{lb}$$

$$\text{lb} = 453.59237 \cdot \text{gm}$$

$$\text{slug} = 32.174 \cdot \text{lb}$$

Time

$$\text{min} = 60 \cdot \text{s}$$

$$\text{yr} = 365.2422 \cdot \text{day}$$

$$\text{hr} = 3600 \cdot \text{s}$$

$$\text{day} = 24 \cdot \text{hr}$$

Area, Volume

$$\text{hectare} = 10^4 \cdot \text{m}^2$$

$$\text{mL} = 10^{-3} \cdot \text{L}$$

$$\text{acre} = 4840 \cdot \text{yd}^2$$

$$\text{fl_oz} = 29.57353 \cdot \text{cm}^3$$

$$\text{L} = 0.001 \cdot \text{m}^3$$

$$\text{gal} = 128 \cdot \text{fl_oz}$$

Velocity, Acceleration

$$\text{mph} = \frac{\text{mi}}{\text{hr}}$$

$$\text{kph} = \frac{\text{km}}{\text{hr}}$$

$$\text{g} = 9.80665 \cdot \frac{\text{m}}{\text{s}^2}$$

Force, Energy, Power

$$\text{N} = \text{kg} \cdot \frac{\text{m}}{\text{s}^2}$$

$$\text{kgf} = \text{g} \cdot \text{kg}$$

$$\text{cal} = 4.1868 \cdot \text{J}$$

$$\text{W} = \frac{\text{J}}{\text{s}}$$

$$\text{dyne} = 10^{-5} \cdot \text{N}$$

$$\text{J} = \text{N} \cdot \text{m}$$

$$\text{kcal} = 1000 \cdot \text{cal}$$

$$\text{kW} = 1000 \cdot \text{W}$$

$$\text{lbf} = \text{g} \cdot \text{lb}$$

$$\text{erg} = 10^{-7} \cdot \text{J}$$

$$\text{BTU} = 1.05506 \cdot 10^3 \cdot \text{J}$$

$$\text{hp} = 550 \cdot \frac{\text{ft} \cdot \text{lbf}}{\text{s}}$$

Pressure, Viscosity

$$\text{Pa} = \frac{\text{N}}{\text{m}^2}$$

$$\text{in}_\text{Hg} = 3.38638 \cdot 10^3 \cdot \text{Pa}$$

$$\text{poise} = 0.1 \cdot \text{Pa} \cdot \text{s}$$

$$\text{psi} = \frac{\text{lbf}}{\text{in}^2}$$

$$\text{torr} = 1.33322 \cdot 10^2 \cdot \text{Pa}$$

$$\text{atm} = 1.01325 \cdot 10^5 \cdot \text{Pa}$$

$$\text{stokes} = 10^{-4} \cdot \frac{\text{m}^2}{\text{s}}$$

Electrical

$$\text{C} = \text{A} \cdot \text{s}$$

$$\text{KV} = 10^3 \cdot \text{V}$$

$$\text{M}\Omega = 10^6 \cdot \Omega$$

$$\text{H} = \frac{\text{V}}{\text{A}} \cdot \text{s}$$

$$\mu\text{A} = 10^{-6} \cdot \text{A}$$

$$\text{F} = \frac{\text{C}}{\text{V}}$$

$$\mu\text{F} = 10^{-6} \cdot \text{F}$$

$$\text{Oe} = \frac{1000}{4 \cdot \pi} \cdot \frac{\text{A}}{\text{m}}$$

$$\text{V} = \frac{\text{J}}{\text{C}}$$

$$\Omega = \frac{\text{V}}{\text{A}}$$

$$\text{S} = \frac{1}{\Omega}$$

$$\mu\text{H} = 10^{-6} \cdot \text{H}$$

$$\text{mA} = 10^{-3} \cdot \text{A}$$

$$\text{pF} = 10^{-12} \cdot \text{F}$$

$$\text{Wb} = \text{V} \cdot \text{s}$$

$$\text{T} = \frac{\text{Wb}}{\text{m}^2}$$

$$\text{mV} = 10^{-3} \cdot \text{V}$$

$$\text{k}\Omega = 10^3 \cdot \Omega$$

$$\text{mho} = \frac{1}{\Omega}$$

$$\text{mH} = 10^{-3} \cdot \text{H}$$

$$\text{kA} = 10^3 \cdot \text{A}$$

$$\text{nF} = 10^{-9} \cdot \text{F}$$

$$\text{gauss} = 10^{-4} \cdot \text{T}$$

Frequency, Activity

$$\text{Hz} = \frac{1}{\text{s}}$$

$$\text{GHz} = 10^9 \cdot \text{Hz}$$

$$\text{kHz} = 10^3 \cdot \text{Hz}$$

$$\text{Bq} = \frac{1}{\text{s}}$$

$$\text{MHz} = 10^6 \cdot \text{Hz}$$

Temperature

$$\text{R} = 0.556 \cdot \text{K}$$

Dose

$$\text{Gy} = \frac{\text{J}}{\text{kg}}$$

$$\text{Sv} = \frac{\text{J}}{\text{kg}}$$

Luminous flux, illuminance

$$\text{lm} = \text{cd} \cdot \text{str}$$

$$\text{lx} = \frac{\text{cd} \cdot \text{str}}{\text{m}^2}$$