

Friday, January 24, 2025

"Système International"

SI units

Kilogram

Kg

mass

Meter

m

length

Second

s

time

Joule

J

energy

degree Kelvin

K

temperature

Watt

W

power  
(energy per time)

radian

rads

angle

## SPEED OF LIGHT (scientific notation)

$$C = 299\,792\,458 \text{ m/s} = 2.99792\dots \times 10^8 \text{ m/s}$$

$$\approx 3.00 \times 10^8 \text{ m/s}$$

$$\approx 3.00 \times 10^5 \text{ km/s}$$

$$\approx 300,000 \text{ km/s}$$

$$1000 \text{ m} = 1 \text{ km}$$

$$10^3 \text{ m} = 1 \text{ km}$$

In this class  $c = 3.00 \times 10^8 \text{ m/s}$   
 $= 3.00 \times 10^5 \text{ km/s}$

Light year = distance travelled by light  
 in 1 year (in vacuum)

$$1 \text{ year} = 365 \frac{\text{days}}{\text{year}} \times 24 \frac{\text{hrs}}{\text{day}} \times 60 \frac{\text{min}}{\text{hr}} \times 60 \frac{\text{s}}{\text{min}}$$

$$= 31,536,000 \text{ s/year}$$

$$\approx 31.5 \times 10^6 \text{ s} \approx 3.15 \times 10^7 \text{ s}$$

$$\approx \pi \times 10^7 \text{ s}$$