

Measurement

① a) $\frac{1.1 \text{ cm}}{100} = 0.011 \text{ m}$

b) $76.2 \text{ nm} = 76.2 \times 10^{-9} \text{ m}$

$$76.2 \times 10^{-9} \text{ m} \times 1000 = 7.62 \times 10^{-5} \text{ mm}$$

c) $2.1 \text{ km} \times 1000 = 2100 \text{ m}$

d) $2.278 \times 10^{11} \text{ m} \times 100 = 2.278 \times 10^{13} \text{ cm}$

② a) $\frac{42.3 \text{ cm}}{100} = 0.423 \text{ m}$

b) $21 \text{ km} \times 1000 = 21000 \text{ m}$

c) $\frac{0.023 \text{ mm}}{1000} = 2.3 \times 10^{-5} \text{ m}$

d) $214 \text{ } \mu\text{m} = 214 \times 10^{-6} \text{ m}$

e) $570 \text{ nm} = 570 \times 10^{-9} \text{ m}$

③ a) $\frac{147 \text{ g}}{1000} = 0.147 \text{ kg}$

b) $11 \text{ Mg} = 11 \times 10^6 \text{ g}$

$$\frac{11 \times 10^6 \text{ g}}{1000} = 11 \times 10^3 \text{ kg} \text{ or } 11000 \text{ kg}$$

c) $7.23 \text{ } \mu\text{g} = 7.23 \times 10^{-6} \text{ g}$

$$\frac{7.23 \times 10^{-6} \text{ g}}{1000} = 7.23 \times 10^{-9} \text{ kg}$$

$$\textcircled{3} \quad d) \quad \frac{478 \text{ mg}}{1000} = 0.478 \text{ g}$$

$$\frac{0.478 \text{ g}}{1000} = 4.78 \times 10^{-4} \text{ Kg}$$

$$\textcircled{4} \quad \frac{11.6 \text{ mg}}{1000} = 1.16 \times 10^{-2} \text{ g}$$

$$1021 \mu\text{g} = 1021 \times 10^{-6} \text{ g} = 1.021 \times 10^{-3} \text{ g}$$

$$0.000006 \text{ Kg} = 6 \times 10^{-6} \text{ Kg} \times 1000 = 6 \times 10^{-3} \text{ g}$$

$$\frac{0.31 \text{ mg}}{1000} = 3.1 \times 10^{-4} \text{ g}$$

0.31 mg, 1021 μg , 0.000006 Kg, 11.6 mg

$$\textcircled{5} \quad a) \quad 0.56 \text{ Km} \times 1000 = 560 \text{ m}$$

$$b) \quad \frac{75 \text{ cm}}{100} = 0.75 \text{ m}$$

$$c) \quad \frac{3224 \text{ mm}}{1000} = 3.224 \text{ m}$$

$$d) \quad \frac{655 \text{ mm}}{1000} = 0.655 \text{ m}$$

$$e) \quad 961 \mu\text{m} = 961 \times 10^{-6} \text{ m} \text{ or } 9.61 \times 10^{-4} \text{ m}$$

$$f) \quad \frac{7564 \text{ g}}{1000} = 7.564 \text{ Kg}$$

$$g) \quad \frac{252 \text{ g}}{1000} = 0.252 \text{ Kg}$$

⑤ w) $52 \mu\text{s} = 52 \times 10^{-6} \text{ s}$ or $5.2 \times 10^{-5} \text{ s}$

i) $15 \underset{\text{y}}{\text{y}} \times 365 \underset{\text{d}}{\text{d}} \times 24 \underset{\text{h}}{\text{h}} \times 3600 \underset{\text{s}}{\text{s}} = 473\ 040\ 000 \text{ s}$

⑥ a) $25 \text{ m/s} \times 3.6 = 90 \text{ km/h}$

b) $90 \text{ km/h} \div 3.6 = 25 \text{ m/s}$

c) $75 \text{ km/h} \div 3.6 = 20.8 \text{ m/s}$

d) $15 \text{ m/s} \times 3.6 = 54 \text{ km/h}$

e) $225 \text{ km/h} \div 3.6 = 62.5 \text{ m/s}$