

6) 41 m^2 into μm^2 (3)

razzle dazzle math!

$$41 \text{ m}^2 \times \left(\frac{1000000 \mu\text{m}}{1 \text{ m}} \right)^2 = \boxed{4.1 \times 10^{13} \mu\text{m}^2}$$

2

1

$$41 \text{ m} \times \text{m} \times \frac{1000000 \mu\text{m}}{1 \text{ m}} \times \frac{1000000 \mu\text{m}}{1 \text{ m}}$$

also works fine

7) 12 cm^3 into km^3 (3)

$$12 \text{ cm}^3 \times \left(\frac{1 \text{ km}}{100000 \text{ cm}} \right)^3 = \boxed{1.2 \times 10^{-14} \text{ km}^3}$$

2

1

8) $51 \frac{\text{m}}{\text{s}}$ into $\frac{\text{km}}{\text{min}}$ (5)

$$51 \frac{\text{m}}{\text{s}} \times \frac{1 \text{ km}}{1000 \text{ m}} \times \frac{60 \text{ s}}{1 \text{ min}} = 3.06 \frac{\text{km}}{\text{min}}$$

2

2

$$\boxed{3.06 \times 10^0 \frac{\text{km}}{\text{min}}}$$

9) $11.7 \frac{\text{m}}{\text{s}^2}$ into $\frac{\mu\text{m}}{\text{hr}^2}$ (5)

$$11.7 \frac{\text{m}}{\text{s}^2} \times \frac{1000000 \mu\text{m}}{1 \text{ m}} \times \underbrace{\frac{3600 \text{ s}}{1 \text{ hr}} \times \frac{3600 \text{ s}}{1 \text{ hr}}}_2 = \boxed{1.52 \times 10^{14} \frac{\mu\text{m}}{\text{hr}^2}}$$

2

2

10) $31 \frac{\text{mol}}{\text{m}^3}$ into $\frac{\text{particles}}{\text{cm}^3}$ (5) (There are 6.022×10^{23} particles in 1 mol)

$$31 \frac{\text{mol}}{\text{m}^3} \times \frac{6.022 \times 10^{23} \text{ particles}}{1 \text{ mol}} \times \left(\frac{1 \text{ m}}{100 \text{ cm}} \right)^3 = \boxed{1.9 \times 10^{19} \frac{\text{particles}}{\text{cm}^3}}$$

2

Same as

$$\frac{1 \text{ m}}{100 \text{ cm}} \times \frac{1 \text{ m}}{100 \text{ cm}} \times \frac{1 \text{ m}}{100 \text{ cm}}$$

1

2