

M10 - 1.3 - Scientific Notation Conversion Factors Notes

Conversion Factors

How many Litres are in 50 Millilitres?

$$50 \text{ mL} \times \frac{1 \text{ L}}{1000 \text{ mL}} = 0.05 \text{ L} = 5 \times 10^{-2} \text{ L}$$

OR

$$50 \text{ mL} \times \frac{10^{-3} \text{ L}}{1 \text{ mL}} = 0.05 \text{ L} = 5 \times 10^{-2} \text{ L}$$

Attach Prefix Exponent to the Base Unit!

How many Micrometers in 4 Meters?

$$4 \text{ m} \times \frac{1000000 \mu\text{m}}{1 \text{ m}} = 4000000 \mu\text{m}$$

OR

$$4 \text{ m} \times \frac{1 \mu\text{m}}{10^{-6} \text{ m}} = 4000000 \mu\text{m}$$

$$4000000 \mu\text{m} = 4 \times 10^6 \mu\text{m}$$

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How many millimeters in 24 kilometers?

$$24 \text{ km} \times \frac{1000 \text{ m}}{1 \text{ km}} = 24000 \text{ m}$$

$$24000 \text{ m} \times \frac{100 \text{ cm}}{1 \text{ m}} = 2400000 \text{ cm}$$

$$2400000 \text{ cm} \times \frac{10 \text{ mm}}{1 \text{ cm}} = 24000000 \text{ mm}$$

Base Unit 1st

$$24 \text{ km} \times \frac{10^3 \text{ m}}{1 \text{ km}} = 24000 \text{ m}$$

OR

$$24000 \text{ m} \times \frac{1 \text{ mm}}{10^{-3} \text{ m}} = 24000000 \text{ mm}$$

OR

$$24 \text{ km} \times \frac{10^3 \text{ m}}{1 \text{ km}} \times \frac{1 \text{ mm}}{10^{-3} \text{ m}} = 24000000 \text{ mm}$$

OR

$$24 \text{ km} \times \frac{1000 \text{ m}}{1 \text{ km}} \times \frac{100 \text{ cm}}{1 \text{ m}} \times \frac{10 \text{ mm}}{1 \text{ cm}} = 24000000 \text{ mm}$$

$$24000000 \text{ mm} = 2.4 \times 10^7 \text{ mm}$$