

METRIC CONVERSIONS

Task 1

- 1) Convert 5 km into metres.

$$5 \text{ km} \times 1000 = \mathbf{5000 \text{ m}}$$

- 2) Convert 760 cm into metres.

$$760 \text{ cm} \div 100 = \mathbf{7.6 \text{ m}}$$

- 3) Convert 0.45 km into metres.

$$0.45 \text{ km} \times 1000 = \mathbf{450 \text{ m}}$$

- 4) Convert 3200 mm into metres.

$$3200 \text{ mm} \div 10 = 320 \text{ cm}$$

$$320 \text{ cm} \div 100 = \mathbf{3.2 \text{ m}}$$

- 5) Convert 8.4 m into centimetres.

$$8.4 \text{ m} \times 100 = \mathbf{840 \text{ cm}}$$

- 6) Convert 0.9 km into centimetres.

$$0.9 \text{ km} \times 1000 = 900 \text{ m}$$

$$900 \text{ m} \times 100 = \mathbf{90,000 \text{ cm}}$$

- 7) Convert 12,500 g into kilograms.

$$12,500 \text{ g} \div 1000 = \mathbf{12.5 \text{ kg}}$$

- 8) Convert 4.2 kg into grams.

$$4.2 \text{ kg} \times 1000 = \mathbf{4200 \text{ g}}$$

- 9) Convert 0.03 tonnes into kilograms.

$$0.03 \text{ t} \times 1000 = \mathbf{30 \text{ kg}}$$

- 10) Convert 6700 mg into grams.

$$6700 \text{ mg} \div 1000 = \mathbf{6.7 \text{ g}}$$

- 11) Convert 5.6 L into millilitres.

$$5.6 \text{ L} \times 1000 = \mathbf{5600 \text{ ml}}$$

- 12) Convert 420 ml into litres.

$$420 \text{ ml} \div 1000 = \mathbf{0.42 \text{ L}}$$

- 13) Convert 3.7 cl into litres.

$$3.7 \text{ cl} \div 100 = \mathbf{0.037 \text{ L}}$$

- 14) Convert 0.08 ml into litres.

$$0.08 \text{ ml} \div 1000 = \mathbf{0.00008 \text{ L}}$$

- 15) Convert 2800 cm into kilometres.

$$2800 \text{ cm} \div 100 = 28 \text{ m}$$

$$28 \text{ m} \div 1000 = \mathbf{0.028 \text{ km}}$$

- 16) Convert 650 mm into kilometres.

$$650 \text{ mm} \div 10 = 65 \text{ cm}$$

$$65 \text{ cm} \div 100 = 0.65 \text{ m}$$

$$0.65 \text{ m} \div 1000 = \mathbf{0.00065 \text{ km}}$$

- 17) Convert 200,000 mg into kilograms.

$$200,000 \text{ mg} \div 1000 = 200 \text{ g}$$

$$200 \text{ g} \div 1000 = \mathbf{0.2 \text{ kg}}$$

- 18) Convert 0.7 tonnes into grams.

$$0.7 \text{ t} \times 1000 = 700 \text{ kg}$$

$$700 \text{ kg} \times 1000 = \mathbf{700,000 \text{ g}}$$

- 19) Convert 19.8 L into centilitres.

$$19.8 \text{ L} \times 100 = \mathbf{1980 \text{ cl}}$$

- 20) Convert 5500 ml into litres.

$$5500 \text{ ml} \div 1000 = \mathbf{5.5 \text{ L}}$$

Task 2

- 21) Convert 200 cm² into m².

$$200 \text{ cm}^2 \div 100^2 = \mathbf{0.02 \text{ m}^2}$$

- 22) Convert 3.5 m² into cm².

$$3.5 \text{ m}^2 \times 100^2 = \mathbf{35,000 \text{ cm}^2}$$

- 23) Convert 6000 mm² into m².

$$6000 \text{ mm}^2 \div 10^2 = 60 \text{ cm}^2$$

$$60 \text{ cm}^2 \div 100^2 = \mathbf{0.006 \text{ m}^2}$$

- 24) Convert 0.4 km² into m².

$$0.4 \text{ km}^2 \times 1000^2 = \mathbf{400,000 \text{ m}^2}$$

25) Convert 2.3 m^2 into mm^2 .

$$2.3 \text{ m}^2 \times 100^2 = 23,000 \text{ cm}^2$$

$$23,000 \text{ cm}^2 \times 10^2 = 2,300,000 \text{ mm}^2$$

26) Convert 5000 cm^3 into m^3 .

$$5000 \text{ cm}^3 \div 100^3 = 0.005 \text{ m}^3$$

27) Convert 0.02 m^3 into cm^3 .

$$0.02 \text{ m}^3 \times 100^3 = 20,000 \text{ cm}^3$$

28) Convert $75,000 \text{ mm}^3$ into cm^3 .

$$75,000 \text{ mm}^3 \div 10^3 = 75 \text{ cm}^3$$

29) Convert 0.6 km^3 into m^3 .

$$0.6 \text{ km}^3 \times 1000^3 = 600,000,000 \text{ m}^3$$

30) Convert 1.25 m^3 into litres.

$$1.25 \text{ m}^3 \times 100^3 = 1,250,000 \text{ cm}^3$$

$$1,250,000 \text{ cm}^3 = 1,250,000 \text{ ml}$$

$$1,250,000 \text{ ml} \div 1000 = 1250 \text{ L}$$

35) A cube has a volume of $64,000 \text{ cm}^3$. Find its side length in cm and then in metres.

$$\text{Side length} = \sqrt[3]{64000} = 40 \text{ cm}$$

$$40 \text{ cm} \div 100 = 0.4 \text{ m}$$

36) A road is 2.8 km long and 8 m wide. Work out the area in m^2 and in hectares.

$$\text{Area} = 2800 \times 8 = 22,400 \text{ m}^2$$

$$22,400 \div 10000 = 2.24 \text{ ha}$$

Task 3

31) A swimming pool has a volume of 120 m^3 .

Express this volume in litres.

$$120 \text{ m}^3 \times 100^3 = 120,000,000 \text{ cm}^3$$

$$120,000,000 \text{ cm}^3 = 120,000,000 \text{ ml}$$

$$120,000,000 \text{ ml} \div 1000 = 120,000 \text{ L}$$

32) A field measures 0.25 km^2 . Express this area in m^2 and hectares ($1 \text{ ha} = 10,000 \text{ m}^2$).

$$0.25 \text{ km}^2 \times 1000^2 = 250,000 \text{ m}^2$$

$$250,000 \text{ m}^2 \div 10,000 = 25 \text{ ha}$$

33) A gold bar weighs 12.5 kg. Express this in tonnes, grams, and milligrams.

$$12.5 \text{ kg} \div 1000 = 0.0125 \text{ t}$$

$$12.5 \text{ kg} \times 1000 = 12,500 \text{ g}$$

$$12,500 \text{ g} \times 1000 = 12,500,000 \text{ mg}$$

34) A tank has capacity 2.8 m^3 . How many 7-litre buckets are needed to empty it?

$$2.8 \text{ m}^3 \times 100^3 = 2,800,000 \text{ cm}^3$$

$$2,800,000 \text{ cm}^3 = 2,800,000 \text{ ml}$$

$$2,800,000 \text{ ml} \div 1000 = 2800 \text{ L}$$

$$\text{Buckets} = 2800 \div 7 = 400 \text{ buckets}$$