

Foundation GCSE: Converting Units — Area and Volume

Name: _____

Class: _____

Instructions: Answer all questions. Questions are ordered from easiest (1) to hardest (20). Working out should be shown where appropriate.

1. A small tile has an area of 4 cm^2 . What is its area in square millimeters?
2. A rectangular lawn has an area of 300 mm^2 . Express this area in square centimeters.
3. A room has a floor area of 5 m^2 . A rug covers 20000 cm^2 . What area of the floor is left uncovered, in square centimeters?
4. Find the total area of two patches of land measuring 45000 cm^2 and 2 m^2 . Give your answer in square meters.
5. A rectangular tank has a volume of 2 m^3 . How many cubic centimeters of water can it hold?
6. A container holds 3500 cm^3 of liquid. How many liters is this?
7. A bucket contains 4.5 litres of water. If 1200 cm^3 is poured out, how many cubic centimeters are left?
8. A swimming pool has a volume of 1.5 m^3 . How many liters of water does it hold?
9. Two metal plates have areas of 2500000 mm^2 and 3 m^2 . Find their combined area in square meters.
10. A wall has a painted section of 0.4 m^2 and another section of 1500 cm^2 . What is the total painted area in square centimeters?
11. A box has a volume of 12000 cm^3 . Express this volume in cubic meters.
12. A beaker contains 350 ml of solution. What is this volume in cubic centimeters?
13. A block of stone has a volume of 0.02 m^3 . What is its volume in cubic centimeters?
14. A small craft model has a volume of 75000 mm^3 . Convert this volume into cubic centimeters.
15. A droplet of oil has a volume of 3.5 cm^3 . What is its volume in cubic millimeters?
16. A farm covers 2.5 hectares. Given that $1 \text{ ha} = 10000 \text{ m}^2$, what is the total area in square meters?
17. A tank is filled with 4500 ml of oil. Express this volume in cubic meters.
18. A water butt contains 0.005 m^3 of water. How many liters of water are in the butt?
19. A woodland covers 1.2 km^2 . What is its area in square meters?
20. A storage container has a volume of 450000 cm^3 . If 0.2 m^3 of items are added to it, what is the total volume of contents now inside, in cubic meters?

Answers & Worked Solutions

1. $400 \text{ mm}^2 : 4 \times 100 = 400$.
2. $3 \text{ cm}^2 : 300 \div 100 = 3$.
3. $30000 \text{ cm}^2 : 5 \text{ m}^2 = 50000 \text{ cm}^2$, then $50000 - 20000 = 30000$.
4. $6.5 \text{ m}^2 : 45000 \text{ cm}^2 = 4.5 \text{ m}^2$, then $4.5 + 2 = 6.5$.
5. $2000000 \text{ cm}^3 : 2 \times 100^3 = 2000000$.
6. $3.5 \text{ litres} : 3500 \div 1000 = 3.5$.
7. $3300 \text{ cm}^3 : 4.5 \text{ litres} = 4500 \text{ cm}^3$, then $4500 - 1200 = 3300$.
8. $1500 \text{ litres} : 1.5 \times 1000 = 1500$.
9. $5.5 \text{ m}^2 : 2500000 \text{ mm}^2 = 2.5 \text{ m}^2$, then $2.5 + 3 = 5.5$.
10. $5500 \text{ cm}^2 : 0.4 \text{ m}^2 = 4000 \text{ cm}^2$, then $4000 + 1500 = 5500$.
11. $0.012 \text{ m}^3 : 12000 \div 1000000 = 0.012$.
12. $350 \text{ cm}^3 : 1 \text{ ml} = 1 \text{ cm}^3$.
13. $20000 \text{ cm}^3 : 0.02 \times 1000000 = 20000$.
14. $75 \text{ cm}^3 : 75000 \div 1000 = 75$.
15. $3500 \text{ mm}^3 : 3.5 \times 1000 = 3500$.
16. $25000 \text{ m}^2 : 2.5 \times 10000 = 25000$.
17. $0.0045 \text{ m}^3 : 4500 \text{ ml} = 4500 \text{ cm}^3 = 0.0045 \text{ m}^3$.
18. $5 \text{ litres} : 0.005 \times 1000000 \text{ cm}^3 = 5000 \text{ cm}^3 = 5 \text{ l}$.
19. $1200000 \text{ m}^2 : 1.2 \times 1000000 = 1200000$.
20. $0.65 \text{ m}^3 : 450000 \text{ cm}^3 = 0.45 \text{ m}^3$, then $0.45 + 0.2 = 0.65$.