FOUNDATION & HIGHER

SAME AT BOTH TIERS

Name ..... Class .....

G14: Units of measure

Reason with units of length, area, volume, mass and time

20 marks · 25 minutes · Non-calculator

1) Explain why area is measured in square units.

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[Question 1: 2 marks]

2) Show that 2.5 m^2 is 25 000 cm^2.

[Question 2: 2 marks]

3) Ben says 1 litre is 100 cm^3. Explain his mistake.

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[Question 3: 2 marks]

4) Explain why 3 m + 50 cm is not 53.

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[Question 4: 2 marks]

5) Show that 0.2 m^3 is 200 litres.

[Question 5: 2 marks]

6) Which is longer, 1.2 km or 1150 m? Explain.

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[Question 6: 1 marks]

7) Explain why a volume cannot be measured in cm^2.

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[Question 7: 1 marks]

8) Show that 3 hours 45 minutes is 225 minutes.

[Question 8: 2 marks]

9) Is 5 m a sensible height for a house door? Explain.

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[Question 9: 2 marks]

10) Show that a cuboid 2 m by 50 cm by 40 cm has volume 0.4 m^3.

[Question 10: 2 marks]

11) Explain why 1 tonne is 1 000 000 g.

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[Question 11: 2 marks]

End of paper – 20 marks in total

Answers and brief mark scheme

Q	Answer	Method / notes
1	Explanation	Area counts how many unit squares fit (C2).
2	Shown	$\times 10\,000$ (M1); C1.
3	$1000\,cm^3$	C1; B1.
4	Explanation	Units must be the same (C1); 3.5 m or 350 cm (C1).
5	Shown	$1\,m^3$ = 1000 litres (M1); C1.
6	1.2 km	1200 m (C1).
7	Explanation	Volume needs three dimensions (C1).
8	Shown	180 + 45 (M1); C1.
9	No	Doors are about 2 m (C2).
10	Shown	$2 \times 0.5 \times 0.4$ (M1); C1.
11	Explanation	1 tonne = 1000 kg and 1 kg = 1000 g (C2).