Area, Perimeter & Volume: Hard Practice Paper 4 Answers

Q#	Answer	Explanation
1	D	Work out each rectangle separately: 12 × 5 = 60 m² and 7 × 4 = 28 m². Adding them gives 60 + 28 = 88 m².
2	D	The three different faces are 10 × 4 = 40, 10 × 3 = 30 and 4 × 3 = 12 cm². There are two of each, so the surface area is 2 × (40 + 30 + 12) = 164 cm².
3	B	The base area is 20 × 10 = 200 cm², and the height is 1,000 ÷ 200 = 5 cm.
4	B	The length and width add to 28 ÷ 2 = 14 cm and multiply to 45. The pair 5 and 9 works, so the width is 5 cm.
5	C	Area is half the base times the height, so base × height = 2 × 96 = 192. Then the height is 192 ÷ 24 = 8 cm.
6	C	Each face is 150 ÷ 6 = 25 cm², so each edge is 5 cm because 5 × 5 = 25. The volume is 5 × 5 × 5 = 125 cm³.
7	D	The area is 6 × 3.5 = 21 m², and 21 × £25 = £525.
8	C	The path adds 1 m to each side, so the outer rectangle is 10 m by 7 m, giving 70 m². Taking away the patch: 70 − 40 = 30 m².
9	C	The cubes fit 5 along, 3 across and 2 high, so 5 × 3 × 2 = 30 cubes.
10	D	The length is 84 ÷ 6 = 14 cm, so the perimeter is 2 × (14 + 6) = 40 cm.
11	C	The volume is 60 × 40 × 25 = 60,000 cm³, and 60,000 ÷ 1,000 = 60 litres.
12	B	Try a 3 cm by 2 cm rectangle: its perimeter is 10 cm. Doubling the sides gives 6 cm by 4 cm, with a perimeter of 20 cm, which is twice as much. The area, however, becomes 4 times bigger.
13	C	Area of a triangle is half the base times the height: (13 × 10) ÷ 2 = 130 ÷ 2 = 65 cm².

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14	D	Since 17 × 17 = 289, each side is 17 cm, so the perimeter is 4 × 17 = 68 cm.
15	C	Multiply by 1,000: 2 × 1,000 = 2,000 cm^3.

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