Area, Perimeter & Volume: Hard Practice Paper 2 Answers

Q#	Answer	Explanation
1	D	The whole rectangle is 15 × 9 = 135 m² and the piece removed is 6 × 4 = 24 m², so the area is 135 − 24 = 111 m².
2	C	The three different faces are 6 × 5 = 30, 6 × 2 = 12 and 5 × 2 = 10 cm². There are two of each, so the surface area is 2 × (30 + 12 + 10) = 104 cm².
3	D	Volume is base area × height, so 45 × 8 = 360 cm³.
4	C	The length and width add to 40 ÷ 2 = 20 cm and multiply to 96. The pair 8 and 12 works, so the length is 12 cm.
5	C	Area is half the base times the height, so base × height = 2 × 84 = 168. Then the base is 168 ÷ 12 = 14 cm.
6	D	Since 6 × 6 × 6 = 216, each edge is 6 cm. Each face is 6 × 6 = 36 cm², so the surface area is 6 × 36 = 216 cm². The two answers happen to be the same number here.
7	D	The lawn area is 9 × 4 = 36 m², and 36 × £7 = £252.
8	C	The paving adds 2 m to each side, so the outer rectangle is 16 m by 12 m, giving 192 m². Taking away the pool: 192 − 96 = 96 m².
9	C	The cubes fit 4 along, 3 across and 2 high, so 4 × 3 × 2 = 24 cubes.
10	D	The length is 60 ÷ 5 = 12 cm, so the perimeter is 2 × (12 + 5) = 34 cm.
11	D	In centimetres the tank is 100 × 50 × 40 = 200,000 cm³, and 200,000 ÷ 1,000 = 200 litres.
12	C	The original area is 4 × 4 = 16 cm² and the new area is 12 × 12 = 144 cm². Since 144 ÷ 16 = 9, the area is 9 times bigger.
13	C	Area of a triangle is half the base times the height: (25 × 8) ÷ 2 = 200 ÷ 2 = 100 cm².

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14	C	If the width is 6 cm then the length is 12 cm, and 6 × 12 = 72 cm². So the perimeter is 2 × (6 + 12) = 36 cm.
15	C	Each face is 10 × 10 = 100 cm², and a cube has 6 faces, so the surface area is 6 × 100 = 600 cm².

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