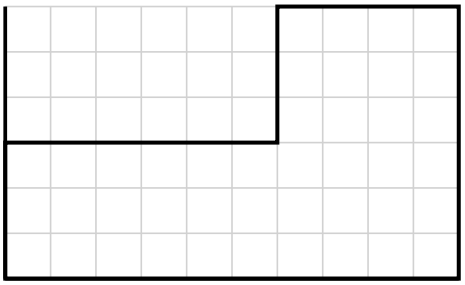
Area, Perimeter & Volume: Hard Practice Paper 7

Q1. Each square on this grid is 1 cm by 1 cm. What is the area of the shape?



A. 36 cm² *B.* 40 cm² *C.* 42 cm² *D.* 48 cm² *E.* 60 cm²

Q2. A cuboid measures 9 cm by 4 cm by an unknown height. Its total surface area is 202 cm². What is its height?

A. 3 cm *B.* 4 cm *C.* 5 cm *D.* 6 cm *E.* 8 cm

Q3. A rectangular pool measures 10 m by 6 m. A path of the same width all the way around it brings the total area, pool and path together, to 96 m². How wide is the path?

A. 0.5 m *B.* 1 m *C.* 1.5 m *D.* 2 m *E.* 3 m

Q4. The edges of a cube are all made 3 times longer. How many times bigger is its volume?

A. 3 times *B.* 6 times *C.* 9 times *D.* 18 times *E.* 27 times

Q5. A rectangle measures 14 cm by 9 cm. A triangle with a base of 6 cm and a height of 9 cm is cut from one corner. What area is left?

A. 81 cm² *B.* 90 cm² *C.* 99 cm² *D.* 108 cm² *E.* 117 cm²

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Q6. A container measures 25 cm by 20 cm by 30 cm. Water is poured in to a depth of 12 cm. How many litres of water is that? (1 litre = 1,000 cm^3)

A. 5 litres

B. 6 litres

C. 7.5 litres

D. 12 litres

E. 15 litres

Q7. How many boxes measuring 5 cm by 5 cm by 10 cm fit inside a crate measuring 30 cm by 20 cm by 20 cm?

A. 24 *B.* 36 *C.* 48 *D.* 60 *E.* 96

Q8. A parallelogram has an area of 84 cm^2 and a perpendicular height of 7 cm. How long is its base?



?

A. 6 cm *B.* 10 cm *C.* 12 cm *D.* 14 cm *E.* 21 cm

Q9. One tin of paint covers 9 m^2 and costs £16. What does it cost to paint a wall measuring 7 m by 3 m?

A. £16 *B.* £32 *C.* £42 *D.* £48 *E.* £64

Q10. A cube has a total surface area of 384 cm^2. What is its volume?

A. 216 cm^3 *B.* 343 cm^3 *C.* 384 cm^3 *D.* 512 cm^3 *E.* 576 cm^3

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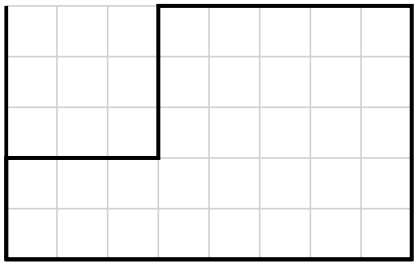
Q11. A field measures 60 m by 45 m. Two thirds of it is planted with wheat. What area is not planted?

A. 675 m² *B.* 900 m² *C.* 1,350 m² *D.* 1,800 m² *E.* 2,025 m²

Q12. Each square on this grid is 1 cm by 1 cm. What is the perimeter of the shape?



A. 22 cm *B.* 24 cm *C.* 26 cm *D.* 30 cm *E.* 34 cm

Q13. There are 10,000 cm² in 1 m². How many square metres are there in 250,000 cm²?

A. 2.5 m² *B.* 25 m² *C.* 250 m² *D.* 2,500 m² *E.* 25,000 m²

Q14. Which of these shapes has the greatest area?

A. A square of side 11 cm

B. A rectangle 15 cm by 8 cm

C. A rectangle 20 cm by 6 cm

D. A triangle with a base of 30 cm and a height of 8 cm

E. A parallelogram with a base of 12 cm and a height of 10 cm

Q15. A rectangle has a length 3 times its width and an area of 108 cm². What is its perimeter?

A. 36 cm *B.* 42 cm *C.* 48 cm *D.* 54 cm *E.* 72 cm

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