Area and perimeter: 10 practice questions

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Name: _____ Date: _____

Attempt all questions and show your working. Suggested time: 15 to 20 minutes.

Section A: Consolidating (Questions 1-4)

Question 1

Find the area of a parallelogram with a base of 12 cm and a perpendicular height of 7 cm.

Question 2

Find the area of a triangle with a base of 10 m and a perpendicular height of 6 m.

Question 3

A trapezium has parallel sides of 8 cm and 14 cm. The perpendicular distance between the parallel sides is 5 cm. Find its area.

Question 4

Convert:

(a) 3 m^2 to cm^2

(b) 45,000 m^2 to hectares

(c) 2500 mm^2 to cm^2

Section B: Standard (Questions 5-10)

Question 5

An L-shaped room is made by taking a rectangle 10 m long and 8 m wide and removing a rectangle 4 m long and 3 m wide from one corner.

(a) Find the floor area of the room.

(b) Find the perimeter of the room.

Question 6

(a) A rhombus has diagonals of length 16 cm and 10 cm. Find its area.

(b) A kite has diagonals of length 9 cm and 14 cm. Find its area.

Question 7

A shape is made from a square with sides of 6 cm and an isosceles triangle sitting on top of it. The base of the triangle is the top side of the square. The triangle has a perpendicular height of 4 cm and its two equal sides are each 5 cm long.

(a) Find the area of the shape.

(b) Find the perimeter of the shape.

Question 8

A garden bed is a trapezium with parallel sides of 3.5 m and 6.5 m. The perpendicular distance between the parallel sides is 4 m.

(a) Find the area of the garden bed.

(b) Turf costs $12.50 per square metre. Find the cost of covering the bed with turf.

Question 9

(a) A parallelogram has an area of 96 cm^2 and a base of 12 cm. Find its perpendicular height.

(b) A triangle has an area of 45 m^2 and a base of 15 m. Find its perpendicular height.

Question 10

A rectangular lawn measures 12 m by 8 m. A path 1 m wide runs all the way around the outside of the lawn.

(a) Find the area of the path.

(b) Find the perimeter of the outer edge of the path.

Area and perimeter: answers

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Question 1

Answer: 84 cm² (12 × 7)

Question 2

Answer: 30 m² (½ × 10 × 6)

Question 3

Answer: 55 cm² (½ × (8 + 14) × 5)

Question 4

Answer: (a) 30,000 cm² (b) 4.5 hectares (c) 25 cm²

Question 5

Answer: (a) 68 m² (80 - 12) (b) 36 m (the same as the full rectangle, 2 × (10 + 8))

Question 6

Answer: (a) 80 cm² (½ × 16 × 10) (b) 63 cm² (½ × 9 × 14)

Question 7

Answer: (a) 48 cm² (36 + 12) (b) 28 cm (6 + 6 + 6 + 5 + 5)

Question 8

Answer: (a) 20 m² (½ × 10 × 4) (b) $250

Question 9

Answer: (a) 8 cm (b) 6 m (½ × 15 × h = 45)

Question 10

Answer: (a) 44 m² (14 × 10 - 12 × 8) (b) 48 m