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

A rectangle is 9 cm long and 6 cm wide. Find its area.

Question 2

A triangle has a base of 10 cm and a perpendicular height of 7 cm. Find its area.

Question 3

A parallelogram has a base of 12 m and a perpendicular height of 5 m. Find its area.

Question 4

A square tile has sides of 8 cm. Find the area of the tile.

Section B: Standard (Questions 5-10)

Question 5

A rectangle has an area of 72 cm^2 and a length of 12 cm. Find its width.

Question 6

Draw any triangle. Explain, using a second identical triangle, why the area of a triangle is given by

$A = \frac{1}{2} \times b \times h$

Question 7

Explain how a parallelogram can be cut and rearranged into a rectangle, and use this to explain why the area of a parallelogram is base × perpendicular height.

Question 8

A parallelogram has a base of 15 cm, slanted sides of 9 cm and a perpendicular height of 8 cm.

(a) Find the area of the parallelogram.

(b) Sam says the area is 15 × 9 = 135 cm^2. Explain Sam's mistake.

Question 9

A triangle has an area of 42 cm^2 and a base of 12 cm. Find its perpendicular height.

Question 10

A rectangular rug is 2.5 m long and 80 cm wide.

(a) Find its area in square metres.

(b) Find its area in square centimetres.

Area and perimeter: answers

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Question 1

Answer: 54 cm² (9 × 6)

Question 2

Answer: 35 cm² (½ × 10 × 7)

Question 3

Answer: 60 m² (12 × 5)

Question 4

Answer: 64 cm²

Question 5

Answer: 6 cm (72 ÷ 12)

Question 6

Answer: Two identical triangles fit together to make a parallelogram (or rectangle) with the same base and height, whose area is b × h. The triangle is half of this shape, so its area is ½ × b × h.

Question 7

Answer: Cut a right-angled triangle off one end (along the perpendicular height) and move it to the other end. This makes a rectangle whose length is the base and whose width is the perpendicular height, with the same area, so A = b × h.

Question 8

Answer: (a) 120 cm² (15 × 8) (b) Sam used the slanted side (9 cm) instead of the perpendicular height (8 cm). The height must be at right angles to the base.

Question 9

Answer: 7 cm (42 × 2 ÷ 12)

Question 10

Answer: (a) 2 m² (2.5 × 0.8) (b) 20,000 cm² (250 × 80)