Year 8 area of a triangle worksheet

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Name: _____ Date: _____

Question 1

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

Answer: _____

Question 2

Convert:

(a) 3 m^2 to cm^2

(b) 45,000 m^2 to hectares

(c) 2500 mm^2 to cm^2

Answer: _____

Question 3

A right-angled triangle has sides of length 6 cm, 8 cm and 10 cm. The 10 cm side is the longest side.

(a) Find its perimeter.

(b) Find its area.

Answer: _____

Question 4

A rectangular paddock is 400 m long and 250 m wide.

(a) Find its area in square metres.

(b) Find its area in hectares.

(c) Fencing costs $15 per metre. Find the cost of fencing all the way around the paddock.

Answer: _____

Question 5

The outline of a pond is traced onto a grid of 1 m by 1 m squares. The outline completely covers 18 squares and partly covers another 10 squares. To estimate the area, each partly covered square is counted as half a square. Estimate the area of the pond.

Answer: _____

Question 6

A square and a rectangle both have a perimeter of 36 cm. The rectangle is 12 cm long.

(a) Find the side length of the square and the width of the rectangle.

(b) Which shape has the larger area, and by how much?

Answer: _____

Question 7

Kai is painting one wall of his bedroom. The wall is a rectangle 5 m long and 2.4 m high. It has a door 0.8 m wide and 2 m high, and a window 1.2 m wide and 1 m high, which are not painted.

(a) Find the area of wall to be painted.

(b) The wall needs two coats of paint. One litre of paint covers 8 m^2 for one coat. How many litres of paint are needed?

(c) Paint is sold only in 1 litre tins costing $24 each. How much will Kai spend on paint?

Answer: _____

Question 8

(a) A rectangle has a perimeter of 50 cm and an area of 150 cm^2. Both side lengths are whole numbers of centimetres. Find the length and width.

(b) A square has the same area as a triangle with a base of 16 cm and a perpendicular height of 8 cm. Find the perimeter of the square.

Answer: _____

Year 8 area of a triangle: answers and worked solutions

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Question 1

Answer: 30 m² (½ × 10 × 6)

Question 2

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

Question 3

Answer: (a) 24 cm (b) 24 cm² (½ × 6 × 8)

Question 4

Answer: (a) 100,000 m² (b) 10 hectares (c) $19 500 (1300 m × 15)

Question 5

Answer: About 23 m² (18 + 10 × ½)

Question 6

Answer: (a) Square side 9 cm, rectangle width 6 cm (b) The square, by 9 cm² (81 - 72)

Question 7

Answer: (a) 9.2 m² (12 - 1.6 - 1.2) (b) 2.3 litres (18.4 ÷ 8) (c) $72 (3 tins)

Question 8

Answer: (a) 15 cm by 10 cm (b) 32 cm (area 64 cm², side 8 cm)