Year 7 area of a triangle worksheet

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Name: _____ Date: _____

Question 1

Find the area of a triangle with a base of 8 cm and a perpendicular height of 5 cm.

Answer: _____

Question 2

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

Answer: _____

Question 3

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

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

Answer: _____

Question 4

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

Answer: _____

Question 5

Copy and complete the table.

Shape	Base	Perpendicular height	Area
Rectangle	14 cm	5 cm	?
Triangle	9 cm	?	36 cm^2
Parallelogram	?	6 m	51 m^2
Triangle	13 mm	10 mm	?

Answer: _____

Question 6

A right-angled triangle has sides of 6 cm, 8 cm and 10 cm. The right angle is between the 6 cm and 8 cm sides. Find the area of the triangle.

Answer: _____

Question 7

An obtuse-angled triangle has a base of 6 cm. Its top corner leans out past the end of the base, so the perpendicular height is measured outside the triangle, from the top corner straight down to the base line extended. This height is 9 cm. Find the area of the triangle.

Answer: _____

Question 8

A rectangle measures 12 cm by 9 cm. A triangle with a base of 18 cm has the same area as the rectangle. Find the perpendicular height of the triangle.

Answer: _____

Question 9

A triangle has a base of 10 cm and a perpendicular height of 6 cm.

(a) Find its area.

(b) The base and the height are both doubled. Find the new area.

(c) How many times larger is the new area than the original area?

Answer: _____

Year 7 area of a triangle: answers and worked solutions

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Question 1

Key idea: The area of a triangle is A = ½ × b × h, where b is the base and h is the perpendicular height.

1. Write the formula: A = ½ × b × h 2. Substitute b = 8 and h = 5: A = ½ × 8 × 5 3. Calculate: A = ½ × 40 = 20

Answer: The area of the triangle is 20 cm².

Question 2

Answer: 35 cm² (½ × 10 × 7)

Question 3

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 4

Answer: 7 cm (42 × 2 ÷ 12)

Question 5

Answer: Rectangle area 70 cm²; triangle height 8 cm; parallelogram base 8.5 m; triangle area 65 mm²

Question 6

Answer: 24 cm² (½ × 6 × 8)

Question 7

Answer: 27 cm² (½ × 6 × 9)

Question 8

Answer: 12 cm (area 108, so ½ × 18 × h = 108)

Question 9

Answer: (a) 30 cm² (b) 120 cm² (c) 4 times