



KS3.M-G7 Perimeter and Area of Rectangles and Triangles

AQA KS3.M-G7 · Calculators not allowed · about 60 minutes

Name: _____ Date: ____ / ____ / ____

Answer ALL questions. Show all your working.

- 1** A rectangle has length 7 cm and width 5 cm. Write down its perimeter.

(1)

- 2** A square has side length 6 cm. Calculate its perimeter.

(1)

- 3** A triangle has sides 5 cm, 7 cm and 8 cm. Work out its perimeter.

(1)

- 4** Calculate the area of a rectangle with length 6 cm and width 4 cm.

(1)

- 5** A triangle has base 8 cm and height 5 cm. Calculate its area.

(1)

- 6** Two rectangles are joined along a side. Rectangle A is 6 cm by 4 cm. Rectangle B is 3 cm by 4 cm. Calculate the total area of the combined shape.

(2)

7 A rectangle has width 6 cm. Its perimeter is 30 cm. Work out the length of the rectangle.

(2)

8 The perimeter of a triangle is 27 cm. Two sides are 8 cm and 9 cm. Find the length of the third side.

(1)

9 A rectangle measures 5 cm by 7 cm. Its length is increased by 2 cm while the width stays the same. Calculate the increase in area.

(2)

10 A triangle has base 5 cm and area 30 cm^2 . Work out the height of the triangle.

(2)

11 A shape is made from a rectangle and a triangle. The rectangle is 8 cm by 3 cm. The triangle has base 4 cm and height 3 cm and sits on one short side of the rectangle. Calculate the total area of the shape.

(2)

12 A right-angled triangle has legs of length 6 cm and 8 cm. Calculate its area.

(1)

- 13** Two rectangles are joined along a short side to make an L-shape. Rectangle A is 6 cm by 4 cm. Rectangle B is 4 cm by 3 cm and is attached so their widths of 4 cm line up at the bottom. Find the perimeter of the L-shape.

(2)

-
- 14** A rectangle has length 12 cm and area 84 cm^2 . Work out its width.

(1)

-
- 15** A triangle has height 4 cm and area 18 cm^2 . Find the length of the base.

(1)

-
- 16** A rectangular garden is 12 m by 8 m. A triangular flower bed with base 6 m and height 4 m is removed from one corner. Calculate the area of the garden that remains.

(2)

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- 17** A composite shape has a rectangle of area 42 cm^2 (length 7 cm) and a triangle with height 5 cm attached so that the total area of the composite shape is 100 cm^2 . Find the base of the triangle. Give your answer to one decimal place if necessary.

(3)

18 A triangle has base 5 cm and height 12 cm so area is 30 cm^2 . A rectangle has length 8 cm and unknown width w . The rectangle and triangle have the same area. Find w .

(2)

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Question 1

- **B1** 24 cm cao
- Answer: **24 cm**

Question 2

- **B1** 24 cm cao
- Answer: **24 cm**

Question 3

- **B1** 20 cm cao
- Answer: **20 cm**

Question 4

- **B1** 24 cm² cao
- Answer: **24 cm²**

Question 5

- **B1** 20 cm² cao
- Answer: **20 cm²**

Question 6

- **M1** areas of each rectangle found or combined method: 6x4 and 3x4 attempted
- **A1** 36 cm² cao (24 + 12 = 36)
- Answer: **36 cm²**

Question 7

- **M1** use $2(\text{length} + \text{width}) = 30$ or equivalent method to form equation
- **A1** length = 9 cm cao
- Answer: **9 cm**

Question 8

- **B1** 10 cm cao
- Answer: **10 cm**

Question 9

- **M1** new area computed as $7 \times 7 = 49$ or difference method used
- **A1** increase = 14 cm² cao (from 35 to 49)
- Answer: **14 cm²**

Question 10

- **M1** use area = $\frac{1}{2} \times \text{base} \times \text{height}$ to form $30 = \frac{1}{2} \times 5 \times h$
- **A1** h = 12 cm cao
- Answer: **12 cm**

Question 11

- **M1** area of rectangle and triangle found: 8x3 and $\frac{1}{2} \times 4 \times 3$
- **A1** total = 30 cm² cao (24 + 6 = 30)
- Answer: **30 cm²**

Question 12

- **B1** 24 cm² cao ($\frac{1}{2} \times 6 \times 8$)
- Answer: **24 cm²**

Question 13

- **M1** outline lengths identified correctly, or perimeter of A plus perimeter of B minus twice the joined 4 cm edge ($20 + 14 - 8$)
- **A1** 26 cm cao
- Answer: **26 cm**

Question 14

- **B1** 7 cm cao
- Answer: **7 cm**

Question 15

- **B1** 9 cm cao
- Answer: **9 cm**

Question 16

- **M1** area of rectangle and area of triangle found: 12×8 and $\frac{1}{2} \times 6 \times 4$
- **A1** remaining area = 84 m^2 cao ($96 - 12 = 84$)
- Answer: **84 m^2**

Question 17

- **M1** subtract rectangle area from total to get triangle area: $100 - 42 = 58$
- **M1** use area = $\frac{1}{2} \times \text{base} \times \text{height}$ to form $58 = \frac{1}{2} \times b \times 5$
- **A1** $b = 23.2 \text{ cm}$ cao
- Answer: **23.2 cm**

Question 18

- **M1** use rectangle area = length $\times$ width and equate to 30
- **A1** $w = 3.75 \text{ cm}$ cao
- Answer: **3.75 cm**