4.7 Perimeter and Area of Rectangles and Triangles: Test Pack

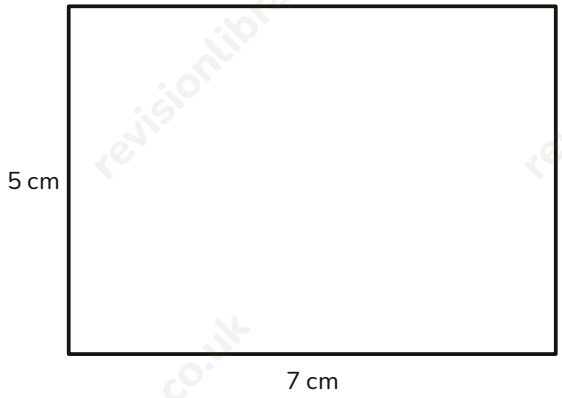
Calculators not allowed · about 55 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

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

Diagram NOT accurately drawn

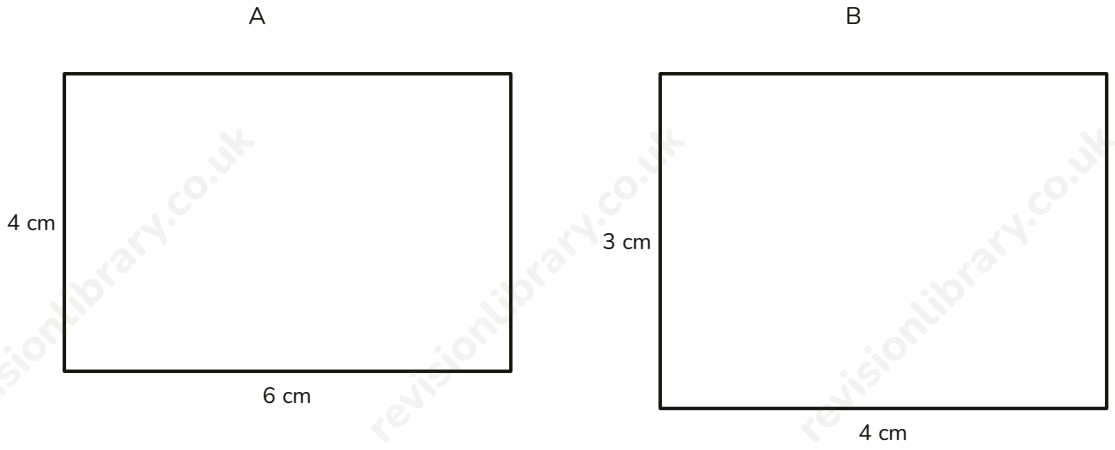


(1)

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2 Two rectangles are joined to make an L-shape. Rectangle A is 6 cm by 4 cm. Rectangle B is 4 cm by 3 cm. The whole of a 4 cm edge of B is joined to a 4 cm section of a 6 cm edge of A, with one pair of endpoints aligned and no overlap. Find the perimeter of the L-shape.

Diagram NOT accurately drawn

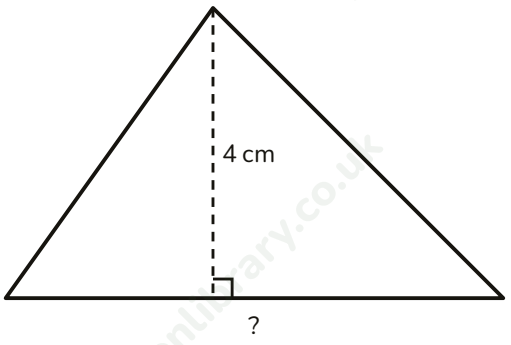


(2)

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3 A triangle has height 4 cm and area 18 cm². Find the length of the base.

Diagram NOT accurately drawn



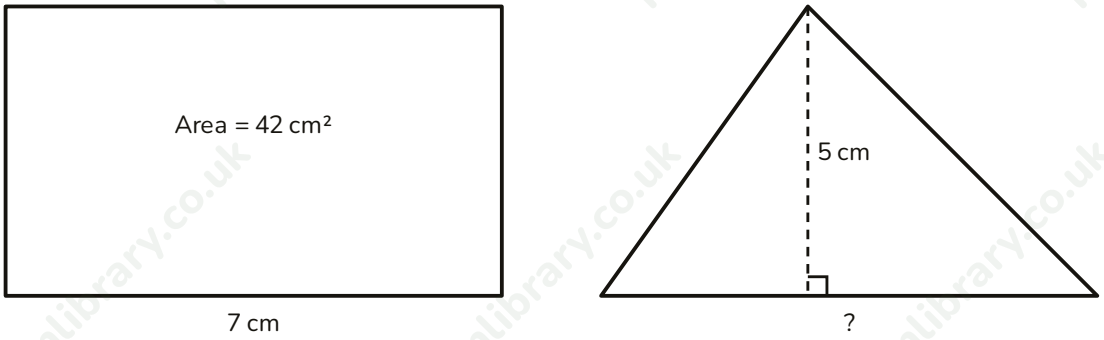
Area = 18 cm²

(1)

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4 A composite shape has a rectangle of area 42 cm² (length 7 cm) and a triangle with height 5 cm attached so that the total area of the composite shape is 100 cm². Find the base of the triangle. Give your answer to one decimal place if necessary.

Diagram NOT accurately drawn



(3)

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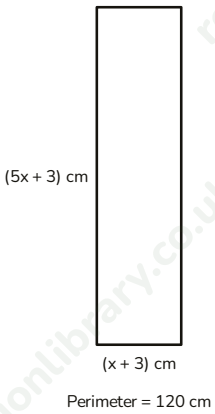
5 A floor is 10 m long and 2 m wide. Carpet costs £3 per square metre. Work out the total cost of carpeting the floor.

(3)

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6 A rectangle has length (x + 3) cm and width (5x + 3) cm. The perimeter of the rectangle is 120 cm.
Work out the value of x and the area of the rectangle.

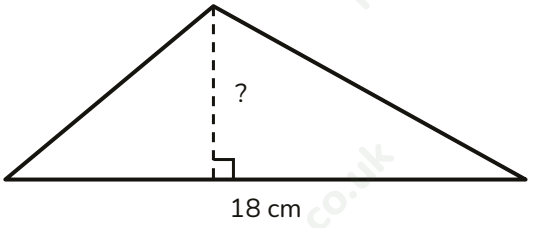
Diagram NOT accurately drawn



(4)

7 A triangle has area 54 cm² and a base of 18 cm. Work out its perpendicular height.

Diagram NOT accurately drawn



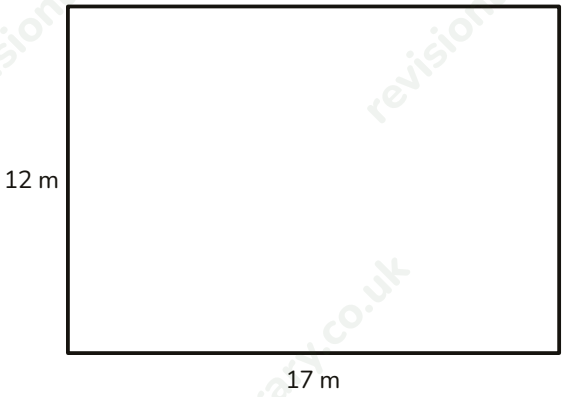
Area = 54 cm²

(3)

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8 A rectangle has length 17 m and width 12 m. Work out (a) its perimeter and (b) its area.

Diagram NOT accurately drawn



(2)

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9 A floor is 4 m long and 6 m wide. Carpet costs £15 per square metre. Work out the total cost of carpeting the floor.

(3)

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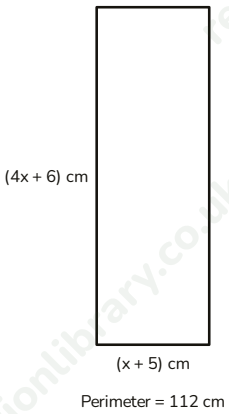
10 A wall is 4 m by 2 m. One tin of paint covers 6 m² and costs £3. Work out the cost of the paint needed. Only whole tins can be bought.

(3)

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11 A rectangle has length (x + 5) cm and width (4x + 6) cm. The perimeter of the rectangle is 112 cm.
Work out the value of x and the area of the rectangle.

Diagram NOT accurately drawn



(4)

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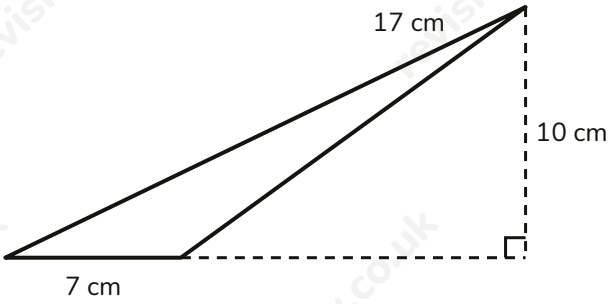
12 The area of a rectangle is 60 mm² and its length is 10 mm. Work out its width and its perimeter.

(3)

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13 A triangle has base 7 cm and perpendicular height 10 cm. Its sloping side is 17 cm long. Work out the area of the triangle.

Diagram NOT accurately drawn



(2)

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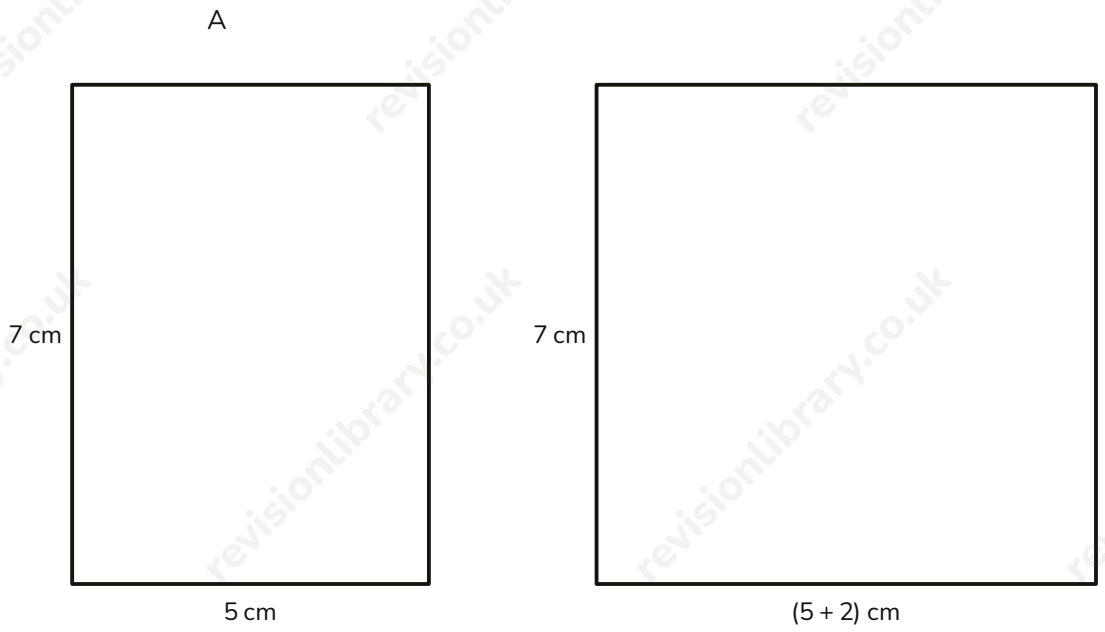
14 A wall is 3 m by 4 m. One tin of paint covers 6 m² and costs £3. Work out the cost of the paint needed. Only whole tins can be bought.

(3)

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

Diagram NOT accurately drawn

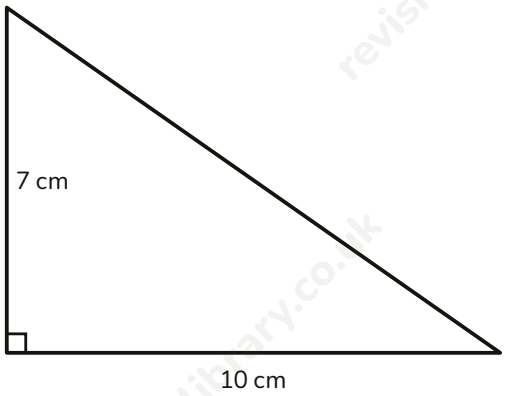


(2)

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16 A right-angled triangle has legs of length 7 cm and 10 cm. Calculate its area, showing your method.

Diagram NOT accurately drawn

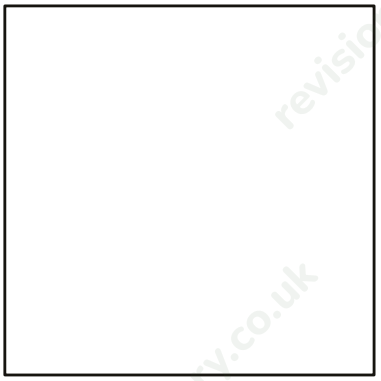


(2)

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17 A square has side length 11 cm. Calculate its perimeter.

Diagram NOT accurately drawn



(1)

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18 Two rectangles are joined along a side. Rectangle A is 7 cm by 5 cm. Rectangle B is 4 cm by 5 cm. Calculate the total area of the combined shape.

(2)

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Mark scheme · 4.7 Perimeter and Area of Rectangles and Triangles: Test Pack

Question 1

24 cm cao — B1

Answer: **24 cm**

Question 2

outline lengths identified correctly, or perimeter of A plus perimeter of B minus twice the joined 4 cm edge (20 + 14 - 8) — M1

26 cm cao — A1

Answer: **26 cm**

Question 3

9 cm cao — B1

Answer: **9 cm**

Question 4

subtract rectangle area from total to get triangle area: 100 - 42 = 58 — M1

use area = 1/2 x base x height to form 58 = 1/2 x b x 5 — M1

b = 23.2 cm cao — A1

Answer: **23.2 cm**

Question 5

10 x 2 = 20 — M1

20 x 3 — M1

£60 cao — A1

Answer: **£60**

Question 6

2((x + 3) + (5x + 3)) = 120 — M1

x = 9 — A1

12 x 48 — M1

576 cm² cao — A1

Answer: **x = 9, area = 576 cm^2**

Question 7

54 = 1/2 x 18 x h or 54 x 2 — M1

108 ÷ 18 — M1

6 cm cao — A1

Answer: **6 cm**

Question 8

(a) 58 m — B1

(b) 204 m² — B1

Answer: **(a) 58 m, (b) 204 m^2**

Question 9

4 x 6 = 24 — M1

24 x 15 — M1

£360 cao — A1

Answer: **£360**

Question 10

8 ÷ 6 — M1

rounds up to 2 tins — M1

£6 cao — A1

Answer: **£6**

Question 11

2((x + 5) + (4x + 6)) = 112 — M1

x = 9 — A1

14 x 42 — M1

588 cm² cao — A1

Answer: **x = 9, area = 588 cm^2**

Question 12

60 ÷ 10 — M1

width = 6 mm — A1

perimeter = 32 mm — A1

Answer: **width = 6 mm, perimeter = 32 mm**

Question 13

1/2 x 7 x 10 — M1

35 cm² cao (the sloping side is not needed) — A1

Answer: **35 cm^2**

Question 14

12 ÷ 6 — M1

rounds up to 2 tins — M1

£6 cao — A1

Answer: **£6**

Question 15

new area computed as 7x7 = 49 or difference method used — M1

increase = 14 cm² cao (from 35 to 49) — A1

Answer: **14 cm^2**

Question 16

uses area = (7 x 10) / 2 — M1

35 cm² cao — A1

Answer: **35 cm^2**

Question 17

44 cm cao — B1

Answer: **44 cm**

Question 18

finds area of each rectangle: 35 cm² and 20 cm² — M1

55 cm² cao — A1

Answer: **55 cm^2**

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