4.7 Perimeter and Area of Rectangles and Triangles: 1-hour Pack

Calculators not allowed · about 60 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

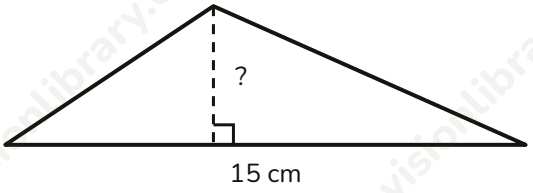
1 A floor is 4 m long and 8 m wide. It is covered with square tiles of side 10 cm. How many tiles are needed? (1 m² = 10 000 cm²)

(3)

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2 A triangle has area 30 cm² and a base of 15 cm. Work out its perpendicular height.

Diagram NOT accurately drawn



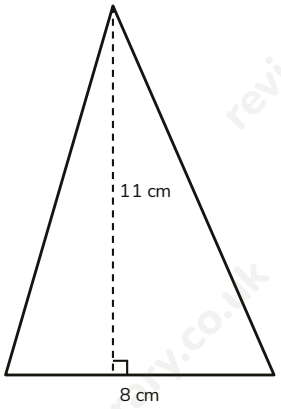
Area = 30 cm²

(3)

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3 A triangle has a base of 8 cm and a perpendicular height of 11 cm. Work out its area.

Diagram NOT accurately drawn

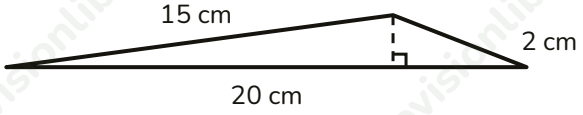


(2)

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4 A triangle has base 20 cm and perpendicular height 2 cm. Its sloping side is 15 cm long. Work out the area of the triangle.

Diagram NOT accurately drawn

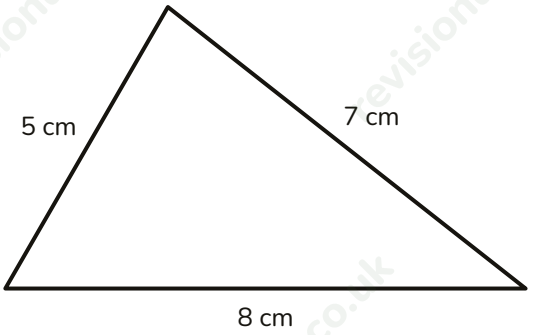


(2)

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

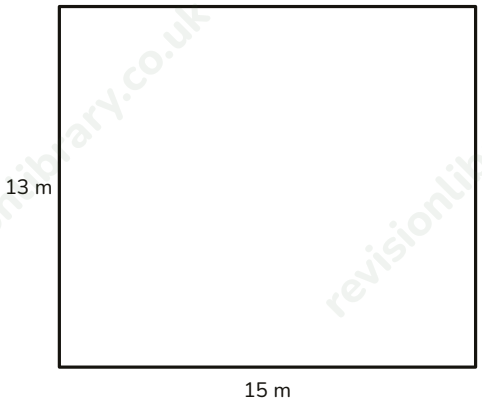
Diagram NOT accurately drawn



(1)

6 A rectangle has length 15 m and width 13 m. Work out (a) its perimeter and (b) its area.

Diagram NOT accurately drawn

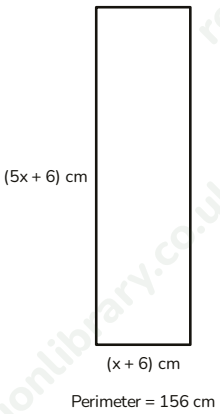


(2)

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7 A rectangle has length (x + 6) cm and width (5x + 6) cm. The perimeter of the rectangle is 156 cm.
Work out the value of x and the area of the rectangle.

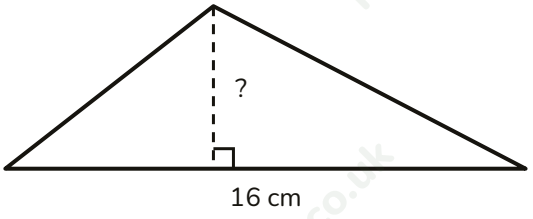
Diagram NOT accurately drawn



(4)

8 A triangle has area 40 cm² and a base of 16 cm. Work out its perpendicular height.

Diagram NOT accurately drawn

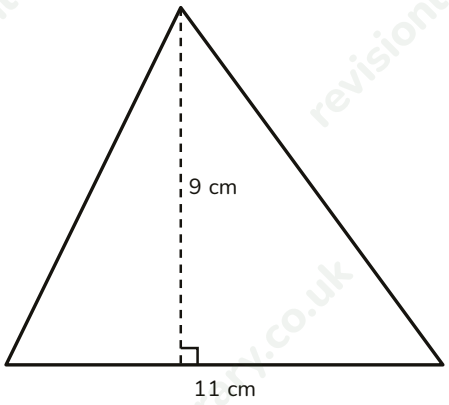


(3)

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9 A triangle has a base of 11 cm and a perpendicular height of 9 cm. Work out its area.

Diagram NOT accurately drawn



(2)

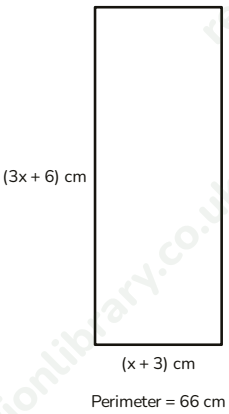
10 A floor is 7 m long and 7 m wide. Carpet costs £11 per square metre. Work out the total cost of carpeting the floor.

(3)

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11 A rectangle has length (x + 3) cm and width (3x + 6) cm. The perimeter of the rectangle is 66 cm.
Work out the value of x and the area of the rectangle.

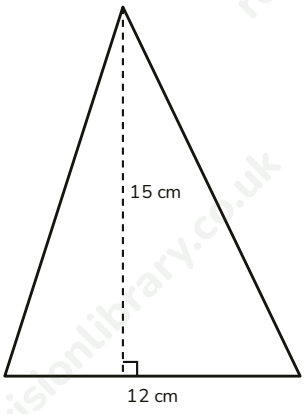
Diagram NOT accurately drawn



(4)

12 A triangle has a base of 12 cm and a perpendicular height of 15 cm. Work out its area.

Diagram NOT accurately drawn

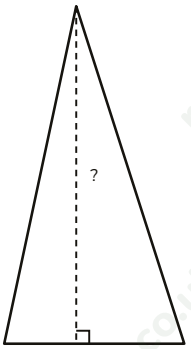


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13 A triangle has area 60 cm² and a base of 8 cm. Work out its perpendicular height.

Diagram NOT accurately drawn

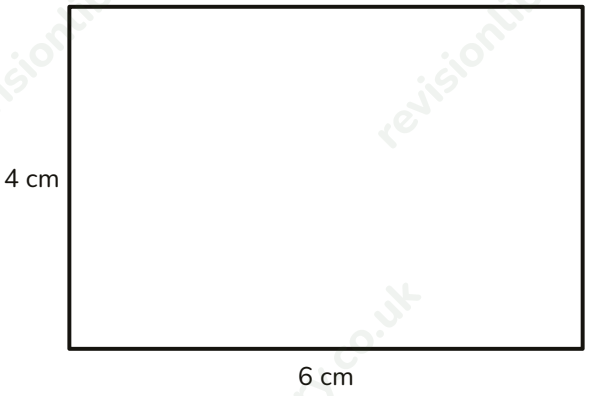


Area = 60 cm²

(3)

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

Diagram NOT accurately drawn



(1)

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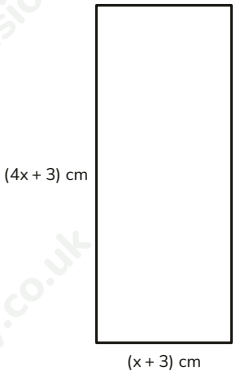
15 A floor is 3 m long and 4 m wide. Carpet costs £13 per square metre. Work out the total cost of carpeting the floor.

(3)

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16 A rectangle has length (x + 3) cm and width (4x + 3) cm. The perimeter of the rectangle is 42 cm.
Work out the value of x and the area of the rectangle.

Diagram NOT accurately drawn



Perimeter = 42 cm

(4)

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17 The perimeter of a rectangle is 50 mm and its length is 21 mm. Work out its area.

(3)

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18 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)

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Mark scheme · 4.7 Perimeter and Area of Rectangles and Triangles: 1-hour Pack

Question 1

area of floor in cm^2: 320000	M1
320000 ÷ 100	M1
3200 cao	A1

Answer: **3200**

Question 2

30 = 1/2 x 15 x h or 30 x 2	M1
60 ÷ 15	M1
4 cm cao	A1

Answer: **4 cm**

Question 3

1/2 x 8 x 11 or 8 x 11 ÷ 2	M1
44 cm^2 cao	A1

Answer: **44 cm^2**

Question 4

1/2 x 20 x 2	M1
20 cm^2 cao (the sloping side is not needed)	A1

Answer: **20 cm^2**

Question 5

20 cm cao	B1

Answer: **20 cm**

Question 6

(a) 56 m	B1
(b) 195 m^2	B1

Answer: **(a) 56 m, (b) 195 m^2**

Question 7

2((x + 6) + (5x + 6)) = 156	M1
x = 11	A1
17 x 61	M1
1037 cm^2 cao	A1

Answer: **x = 11, area = 1037 cm^2**

Question 8

40 = 1/2 x 16 x h or 40 x 2	M1
80 ÷ 16	M1
5 cm cao	A1

Answer: **5 cm**

Question 9

1/2 x 11 x 9 or 11 x 9 ÷ 2	M1
49.5 cm^2 cao	A1

Answer: **49.5 cm^2**

Question 10

7 x 7 = 49	M1
49 x 11	M1
£539 cao	A1

Answer: **£539**

Question 11

2((x + 3) + (3x + 6)) = 66	M1
x = 6	A1
9 x 24	M1
216 cm^2 cao	A1

Answer: **x = 6, area = 216 cm^2**

Question 12

1/2 x 12 x 15 or 12 x 15 ÷ 2	M1
90 cm^2 cao	A1

Answer: **90 cm^2**

Question 13

60 = 1/2 x 8 x h or 60 x 2	M1
120 ÷ 8	M1
15 cm cao	A1

Answer: **15 cm**

Question 14

24 cm^2 cao	B1

Answer: **24 cm^2**

Question 15

3 x 4 = 12	M1
12 x 13	M1
£156 cao	A1

Answer: **£156**

Question 16

2((x + 3) + (4x + 3)) = 42	M1
x = 3	A1
6 x 15	M1
90 cm^2 cao	A1

Answer: **x = 3, area = 90 cm^2**

Question 17

21 + w = 25 (half the perimeter)	M1
w = 4 and 21 x 4	M1
84 mm^2 cao	A1

Answer: **84 mm^2**

Question 18

areas of each rectangle found or combined method: 6x4 and 3x4 attempted	M1
36 cm^2 cao (24 + 12 = 36)	A1

Answer: **36 cm^2**

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