

Name: _____

Exam Style Questions



Area of a Triangle

Corbettmaths

Ensure you have: Pencil, pen, ruler, protractor, pair of compasses and eraser

You may use tracing paper if needed

Guidance

1. Read each question carefully before you begin answering it.
2. Don't spend too long on one question.
3. Attempt every question.
4. Check your answers seem right.
5. Always show your workings

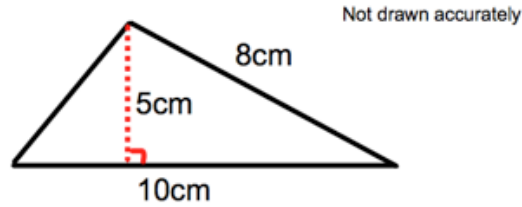
Revision for this topic

www.corbettmaths.com/contents

Video 49



1.



Calculate the area of the triangle.

$$\frac{1}{2}(10) \times 5$$
$$= 5 \times 5 = 25$$

$$25 \text{ cm}^2$$

(2)

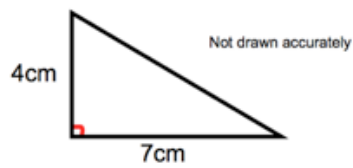
2. A triangle has base length of 14cm.
The perpendicular height is 9cm.
Find the area of the triangle.

$$\frac{1}{2}(14) \times 9$$
$$= 7 \times 9 = 63$$

$$63 \text{ cm}^2$$

(2)

3.



Work out the area of the right-angled triangle.

$$\frac{1}{2}(4) \times 7$$
$$2 \times 7 = 14$$

$$14 \text{ cm}^2$$

(2)

4. On the grid below each square represents 1cm by 1cm.

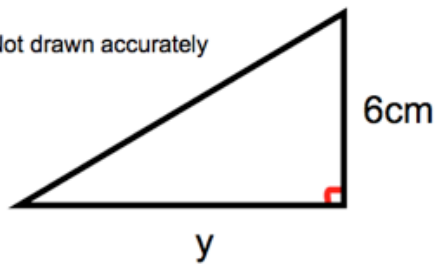


Draw a triangle with an area of 10cm².

(2)

5. Shown below is a right-angled triangle.

Not drawn accurately

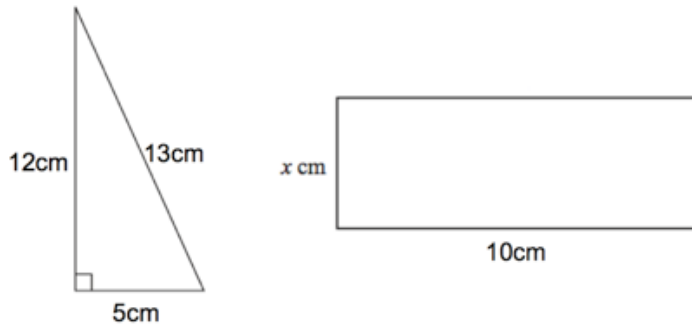


The area of the triangle is 21cm²
Calculate y, the length of the base.

$$21 \times 2 = 42$$
$$42 \div 6 = 7$$

.....7.....cm
(2)

6. Below is a right-angled triangle and a rectangle.



The area of the right-angled triangle is equal to the area of the rectangle.

Calculate x

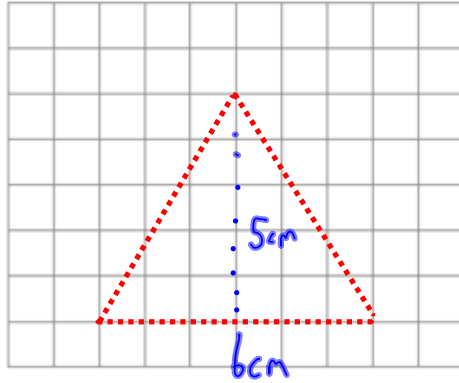
$$\text{Triangle} : \frac{1}{2}(12) \times 5 = 30 \text{ cm}^2$$

$$\text{rectangle} : 30 \div 10 = 3 \text{ cm}$$

$$x = 3 \text{ cm}$$

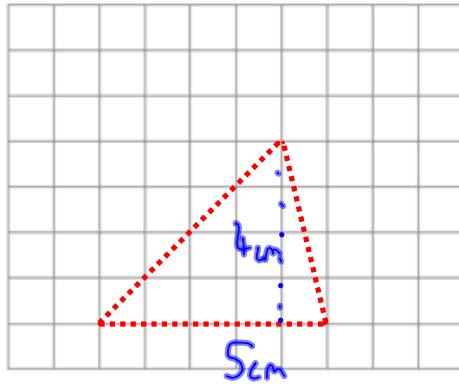
.....cm
(4)

7.



(a) On the centimetre grid above, draw an isosceles triangle with area 15cm^2

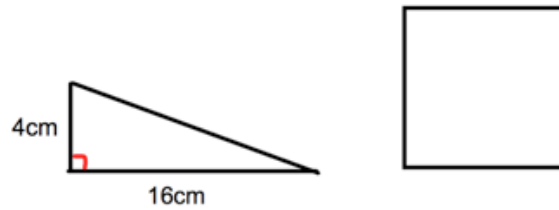
(2)



(b) On the centimetre grid above, draw a scalene triangle with area 10cm^2

(2)

8. Below is a diagram of a right-angled triangle and a square.



The area of the square is twice the area of the triangle.

Calculate the length of each side of the square.

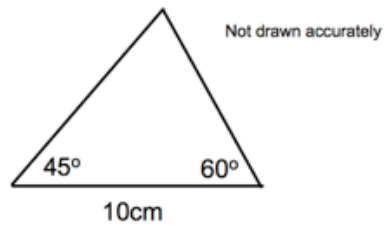
$$\text{Triangle} = \frac{1}{2}(16) \times 4 = 32 \text{cm}^2$$

$$\text{Area of square} = 32 \times 2 = 64 \text{cm}^2$$

$$\sqrt{64} = 8$$

.....⁸.....cm
(4)

9. Below is a sketch of a triangle, not drawn to scale.



(a) Make an accurate drawing of the triangle below.

See video 81

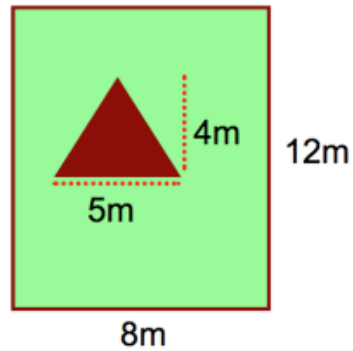
(2)

(b) Calculate the area of the triangle.

Measure the height of the triangle drawn.
Then use $A = \frac{1}{2}bh$

.....cm²
(2)

10. The diagram below shows a garden.



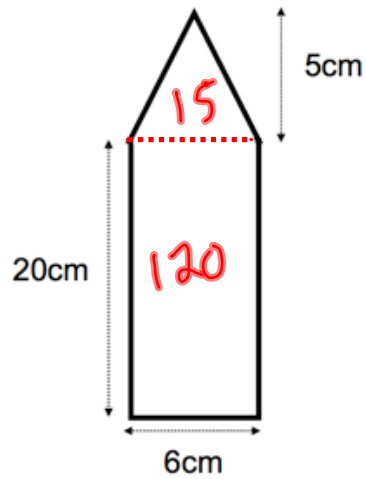
The garden has a triangular vegetable patch and the rest of the garden is grass.

Calculate the area of the garden that is grass.

$$\begin{aligned} \text{Rectangle: } & 8 \times 12 = 96 \text{ m}^2 \\ \text{Triangle: } & \frac{1}{2}(4) \times 5 = 10 \text{ m}^2 \\ & 96 - 10 = 86 \text{ m}^2 \end{aligned}$$

$$\begin{array}{r} 86 \\ \hline \text{m}^2 \\ (4) \end{array}$$

11. A logo consists of a rectangle and an isosceles triangle.



Calculate the area of the logo.

$$\text{rectangle: } 20 \times 6 = 120 \text{ cm}^2$$

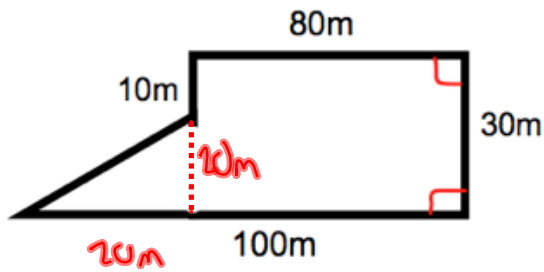
$$\text{triangle: } \frac{1}{2}(6) \times 5 = 15 \text{ cm}^2$$

$$120 + 15 = 135$$

$$\dots\dots\dots 135 \text{ cm}^2$$

(4)

12. The diagram below shows a farmer's field.



The farmer wants to plant a new crop.
Each sack of seed covers 30m^2 .
The cost of each sack is £6.

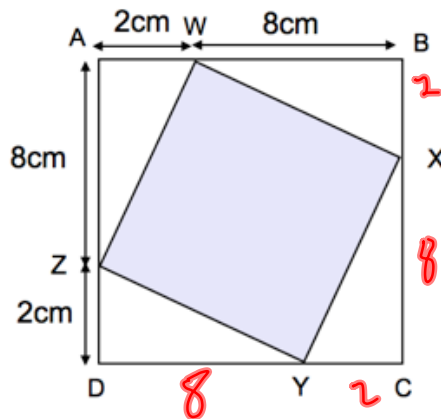
Work out the cost to buy enough seed to cover the field.

$$\begin{aligned} \text{triangle: } & \frac{1}{2}(20) \times 20 = 200\text{m}^2 \\ \text{rectangle: } & 80 \times 30 = 2400\text{m}^2 \\ \text{total: } & 2600\text{m}^2 \\ 2600 \div 30 & = 86.6 \text{ bags} \\ & 87 \text{ bags needed.} \\ 6 \times 87 & = 522 \end{aligned}$$

$$\begin{array}{r} \text{£} \quad 522 \\ \hline \end{array}$$

(6)

13. ABCD and WXYZ are squares.



Calculate the area of the shaded square WXYZ.

$$\text{Area of a triangle: } \frac{1}{2}(8) \times 2 = 8 \text{ cm}^2$$

$$8 \times 4 = 32 \text{ cm}^2 \text{ (All four triangles)}$$

$$\text{Square: } 10 \times 10 = 100$$

$$100 - 32 = 68 \text{ cm}^2$$

.....cm²
(4)