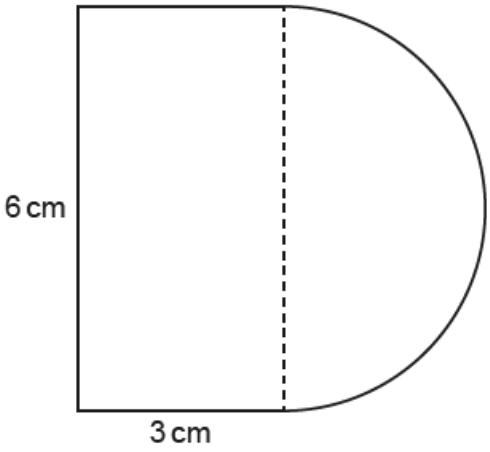
Mensuration – 2021/20 GCSE Mathematics Foundation

1. Nov/2021/Paper_J560/01/No.11

A rectangle, 6 cm by 3 cm, and a semi-circle are joined to make this shape.



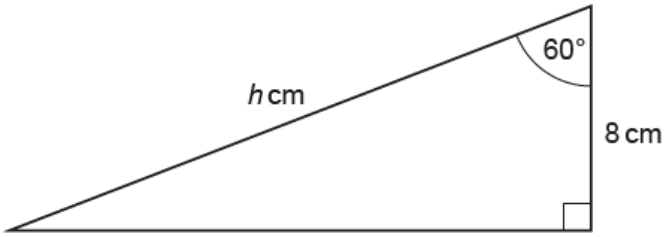
Not to scale

Work out the area of the shape.

.....cm^2 **[4]**

2. Nov/2021/Paper_J560/01/No.23

Here is a right-angled triangle.



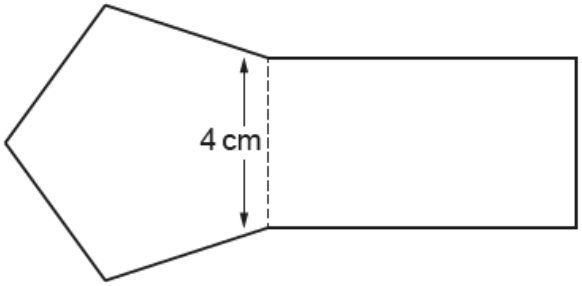
Not to scale

Work out the value of h.

$h =$ ..... **[3]**

3. Nov/2021/Paper_J560/02/No.12

The shape below is formed by a rectangle of width 4 cm and a regular pentagon.
For the rectangle, the ratio of the width to the length is 2 : 5.



Not to scale

Work out the perimeter of the shape.

..... cm **[4]**

4. Nov/2021/Paper_J560/02/No.20

Force is measured in newtons (N).
A force of 198.5 N is applied to a rectangular surface of length 4.9 cm and width 4.1 cm.

Work out an **estimate** of the pressure, in N/cm^2, applied to this rectangular surface.

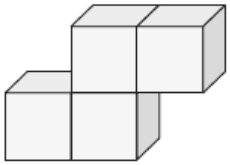
[The formula for pressure is: $\text{Pressure} = \frac{\text{Force}}{\text{Area}}$]

..... N/cm^2 **[4]**

5. Nov/2021/Paper_J560/03/No.10

A student has some cubes that are all the same size.
Each cube is 3 cm by 3 cm by 3 cm.

They put 4 of these cubes together to make this shape.

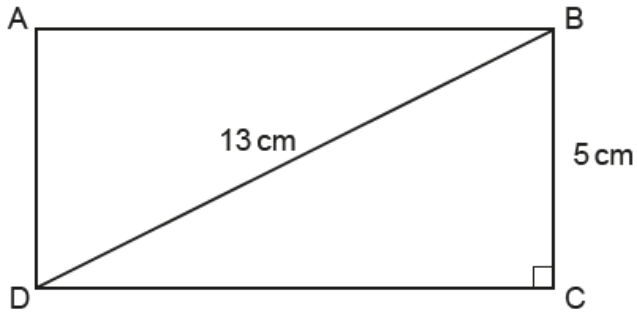


Calculate the surface area of the shape.

..... cm^2 **[4]**

6. Nov/2021/Paper_J560/03/No.20

The diagram shows rectangle ABCD.



Not to scale

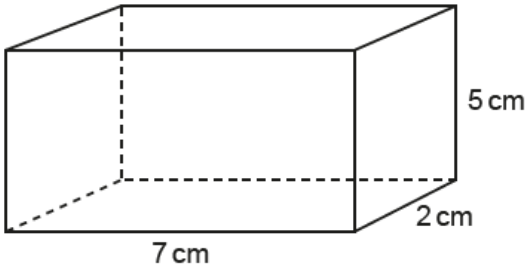
DB = 13 cm and BC = 5 cm.

Calculate the area of the rectangle.
You must show your working.

..... cm^2 **[5]**

7. Nov/2020/Paper_J560/01/No.3

Work out the volume of this cuboid.



..... cm^3 **[2]**

8. Nov/2020/Paper_J560/01/No.11

The scale on a map is 1 : 50 000.

How many kilometres on the ground are represented by 8 cm on the map?

..... km **[3]**

9. Nov/2020/Paper_J560/01/No.18

A triangle has sides of length 14.1 cm, 14.8 cm and 19.5 cm.

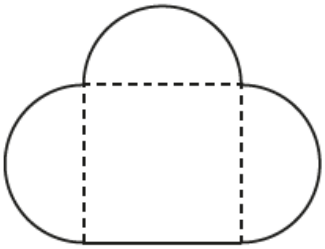
Is this a right-angled triangle?
Show how you decide.

..... because .....

..... **[4]**

10. Nov/2020/Paper_J560/01/No.25

The diagram shows Jane's lawn.
It is in the shape of a square of side 36 m and three semi-circles.



Not to scale

She is going to spread fertiliser on the lawn at a rate of 30 g per square metre.
The fertiliser is only sold in 10 kg bags costing £15.80 each.

Calculate the cost of buying the bags of fertiliser for her lawn.
You must show all your working.

£ ..... **[6]**

11. Nov/2020/Paper_J560/02/No.16

The diagram shows a square.

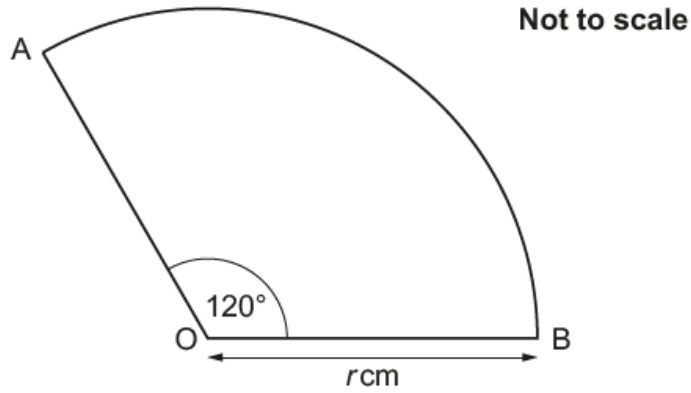
Not to scale

By setting up and solving an equation, show that the perimeter of the square is numerically equal to the area of the square.

..... **[6]**

12. Nov/2020/Paper_J560/02/No.23

AOB is a sector of a circle, centre O.



The area of the sector is $8\,cm^2$.

Work out the exact value of the radius, r cm.

$r =$ ..... cm **[4]**

13. Nov/2020/Paper_J560/03/No.15

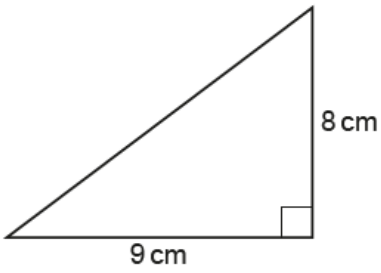
A rectangle is three times as long as it is wide.
It has a perimeter of 44 cm.

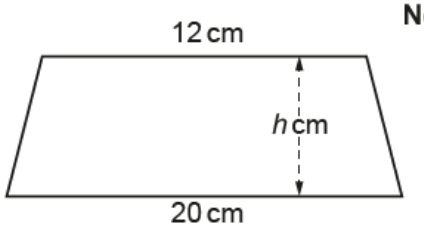
Find the length of the rectangle.

..... cm **[4]**

14. Nov/2020/Paper_J560/03/No.17

The area of the triangle is equal to the area of the trapezium.





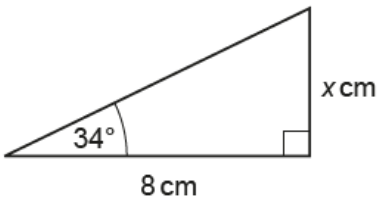
Not to scale

Calculate the height, h cm, of the trapezium.

$h =$ ..... cm **[5]**

15. Nov/2020/Paper_J560/03/No.18

Here is a right-angled triangle.



Not to scale

Use trigonometry to work out the value of x.

$x =$ ..... **[3]**