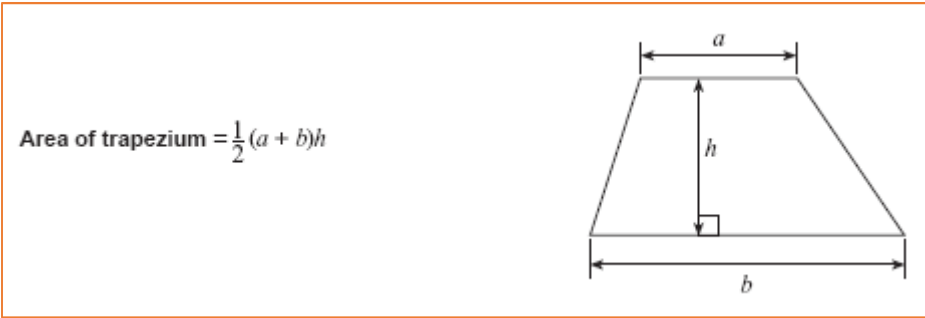


**Perimeter and Area @ GCSE Intermediate Tier**

Calculating perimeters and areas of regular shapes such rectangles, triangles, trapezia and circles are all tested during KS3 and it is an assumption that you can deal with these if you are working towards Intermediate Tier success.

***The only area formula you are given for the exams is the area of a trapezium:***



***You need to be able to recall the others, in particular***

***Area of triangle = “half base times height”***

***Area of circle = “pi r squared”***

Grade C and Grade B standard questions will challenge you to use and apply these formulas in context or in combined shapes.

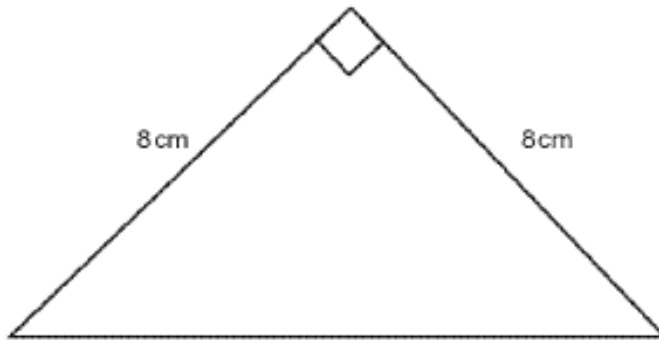
You may also be given an area or perimeter and asked to work out an unknown side.

**Past Paper Questions (progressively more difficult)**

1.

Calculate the area of the triangle.  
State the units of your answer.

[3]



*Diagram not drawn to scale*

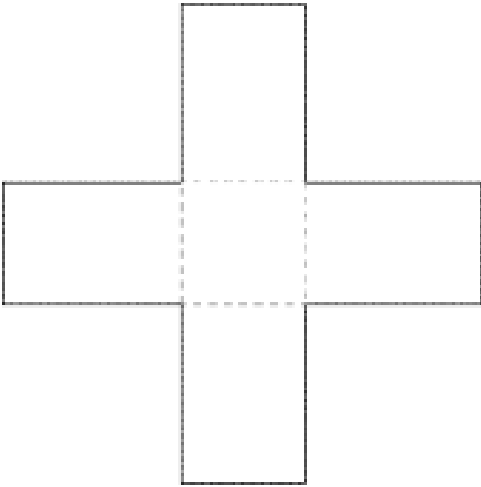
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3. A cross-shaped pattern is made by arranging four identical rectangles around the sides of a square, as shown in the diagram below.



*Diagram not drawn to scale*

The area of the square is  $36 \text{ cm}^2$ .  
The area of each rectangle is one and a half times the area of the square.

Find the perimeter of the cross-shaped pattern.  
Show all of your working and state the units of your answer.

[5]

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5.

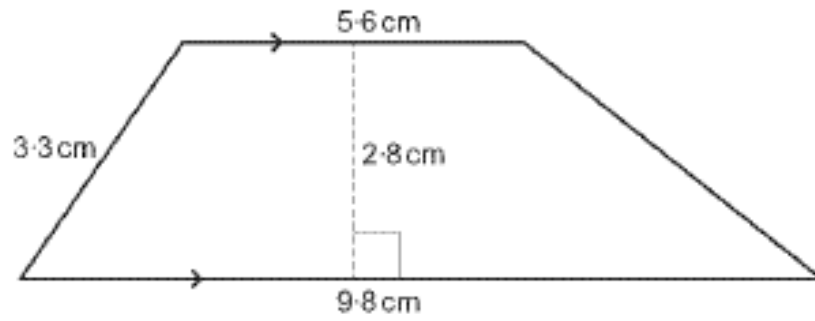


Diagram not drawn to scale

Calculate the area of the trapezium.  
Give the units for your answer.

[3]

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21.56

6.

The area of a circle is  $36\pi \text{ cm}^2$ .  
What is the radius of this circle?

[2]

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9



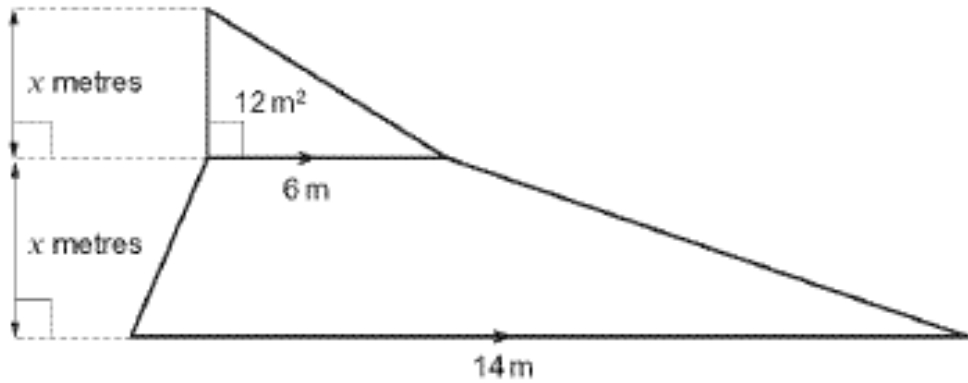
8.

The diagram shows a sail.

The top part of the sail is a triangle with perpendicular height  $x$  metres.

The bottom part of the sail is a trapezium with perpendicular height  $x$  metres.

The area of the triangle is  $12\text{ m}^2$ .



*Diagram not drawn to scale*

Calculate the area of the trapezium.

[4]

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9. You will be assessed on the quality of your written communication in this question.

Rhodri has a tile in the shape of a trapezium.

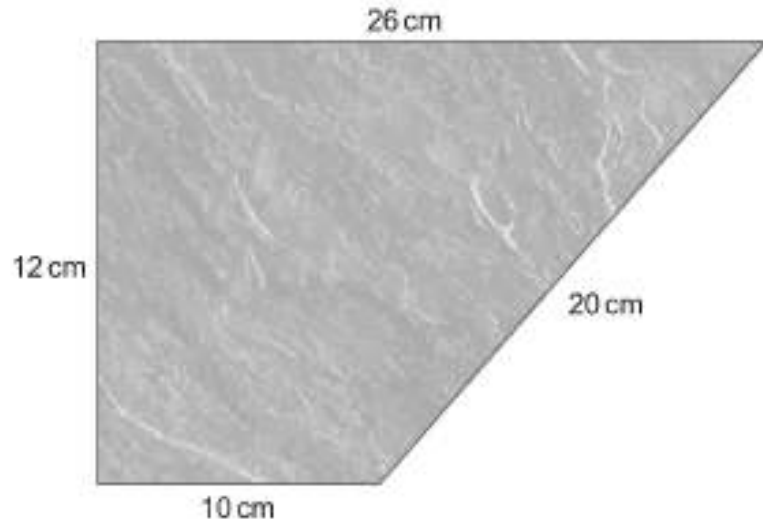


Diagram not drawn to scale

Rhodri decides to cover the tile with gold leaf.

Gold leaf is bought as a book of sheets that can be cut to size without any waste.

Each sheet of gold leaf measures 2.7 cm by 4 cm.

A book of 5 sheets of gold leaf costs £15.50.



Calculate the cost of the gold leaf used to cover Rhodri's tile.

You must show all your working.

[7]

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