

Year Six Mathematics

Area of Irregular Shapes:

Working out problems from diagrams



Key Stage 2

Area of Irregular Shapes: Working out problems from diagrams

Calculate the area and the perimeter of the following shapes.

Use these steps to help you:

- a. Draw a neat diagram;
- b. Mark on all the dimensions you know;
- c. See if you can work out any dimensions you don't know;
- d. Calculate the perimeter;
- e. Split the shape into sections;
- f. Calculate the area of each section;
- g. Find the total area;
- h. Write a sentence stating the answers to the question.

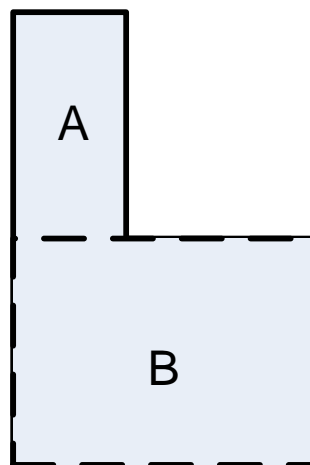
Hints:

Area of a rectangle = length \times breadth

Area of a triangle = $\frac{1}{2}$ base \times perpendicular height

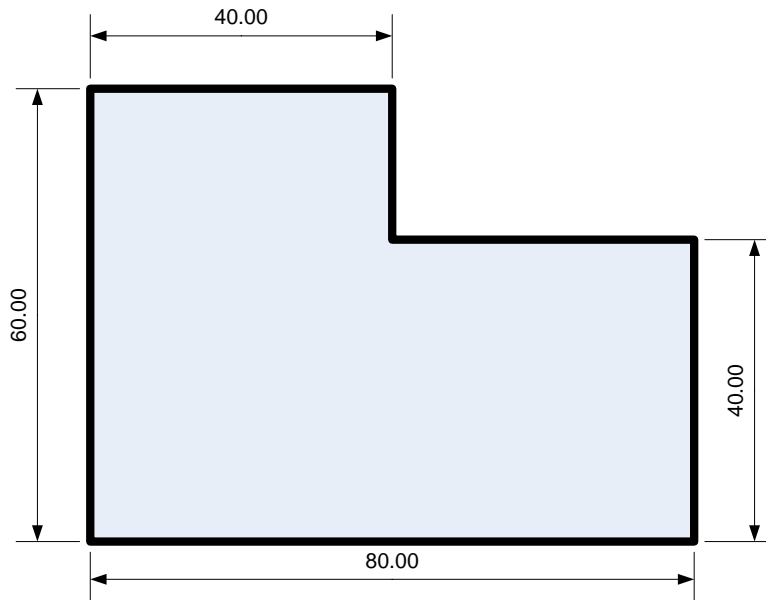
Area of a circle = πr^2

Remember to split the area into parts and deal with one part at a time:

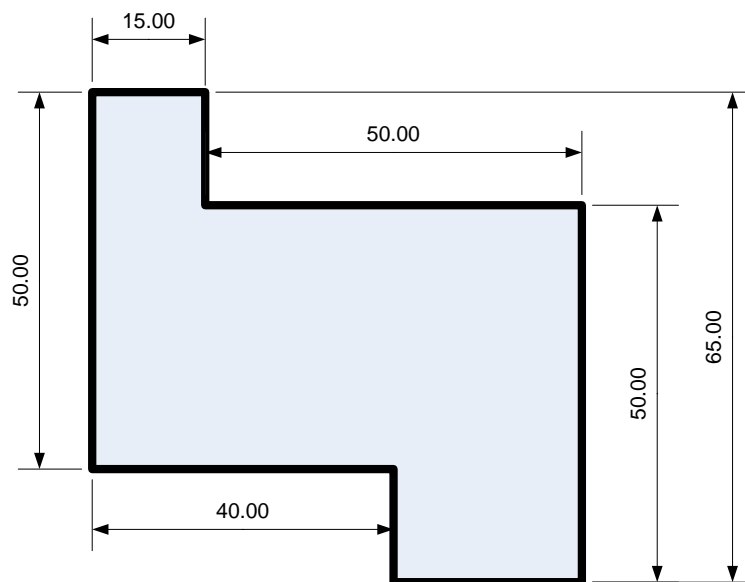


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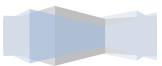
1.



2.

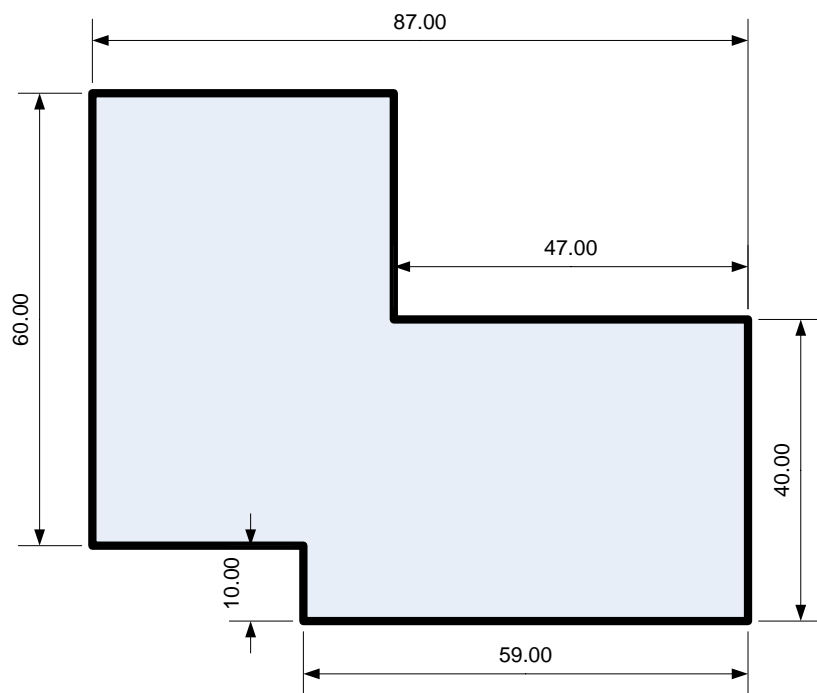


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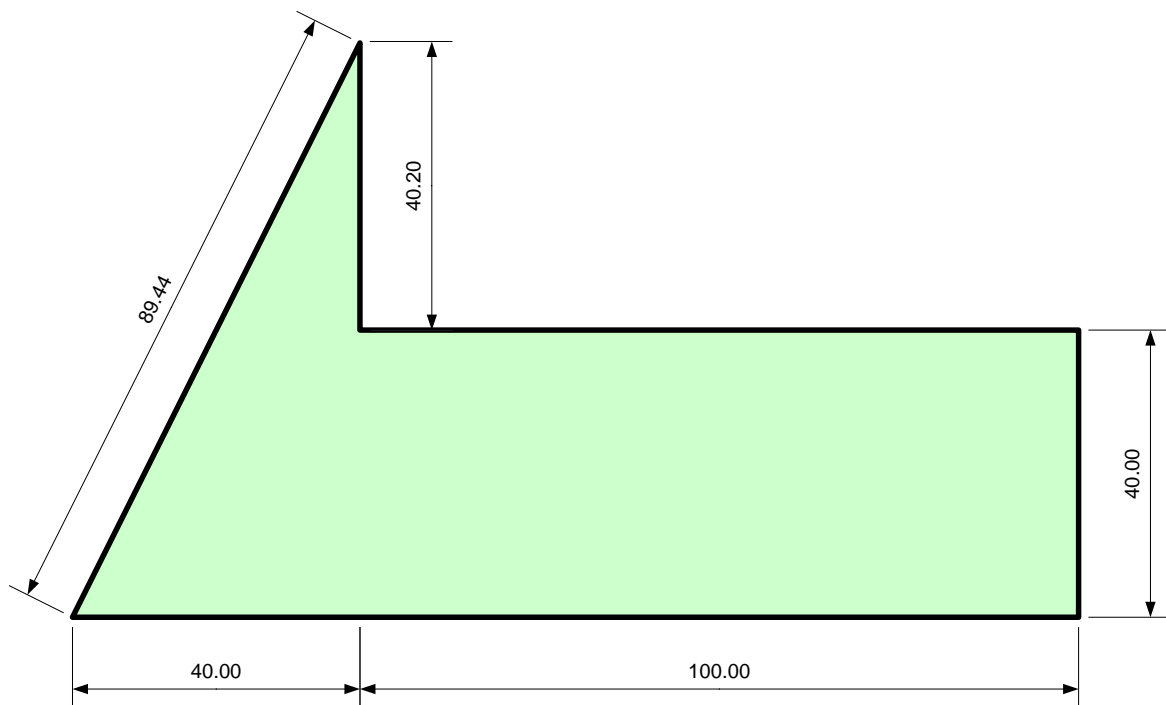


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3.



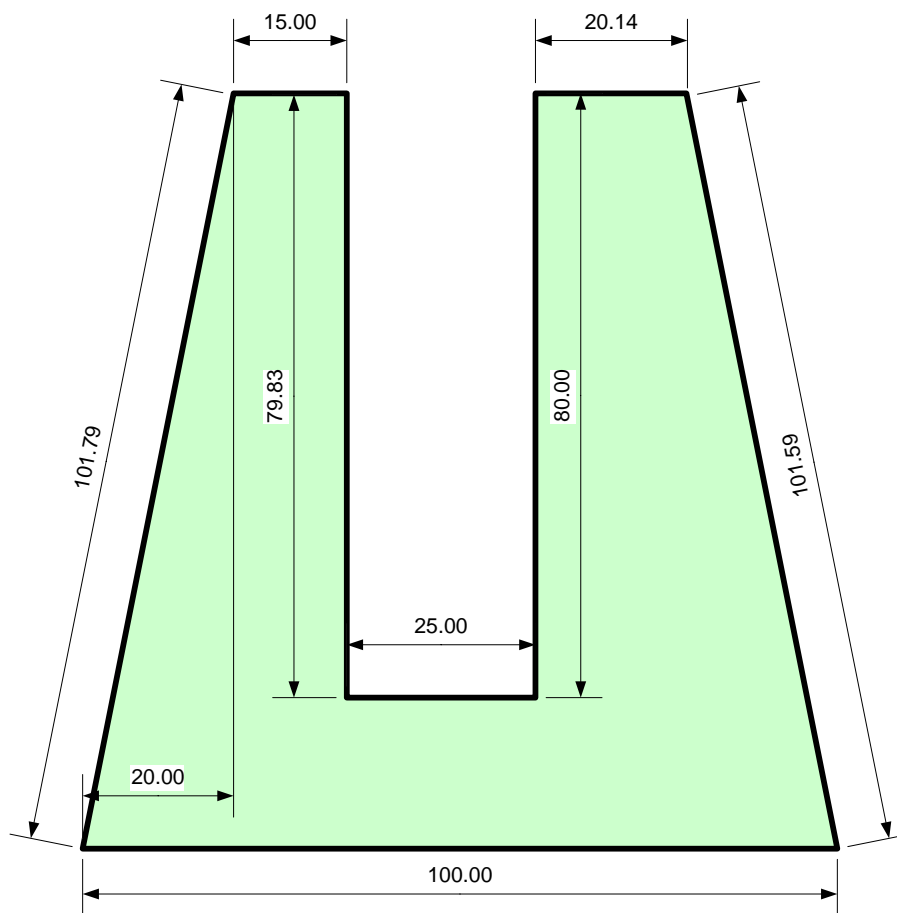
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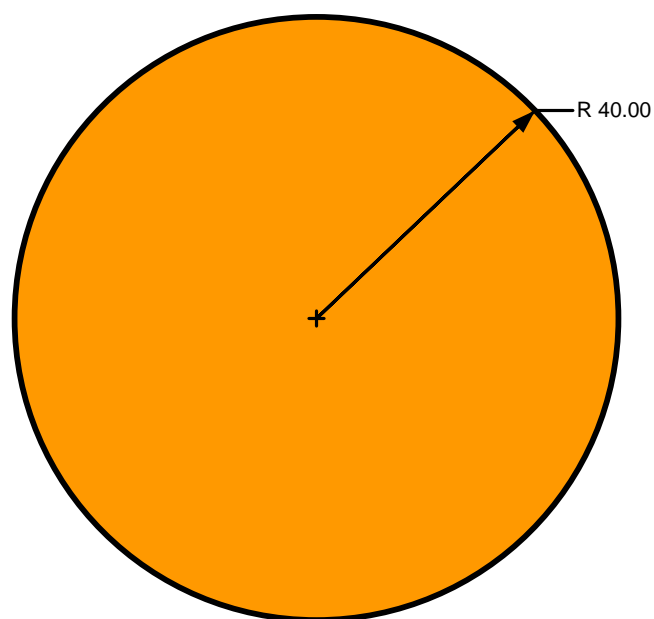
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5.

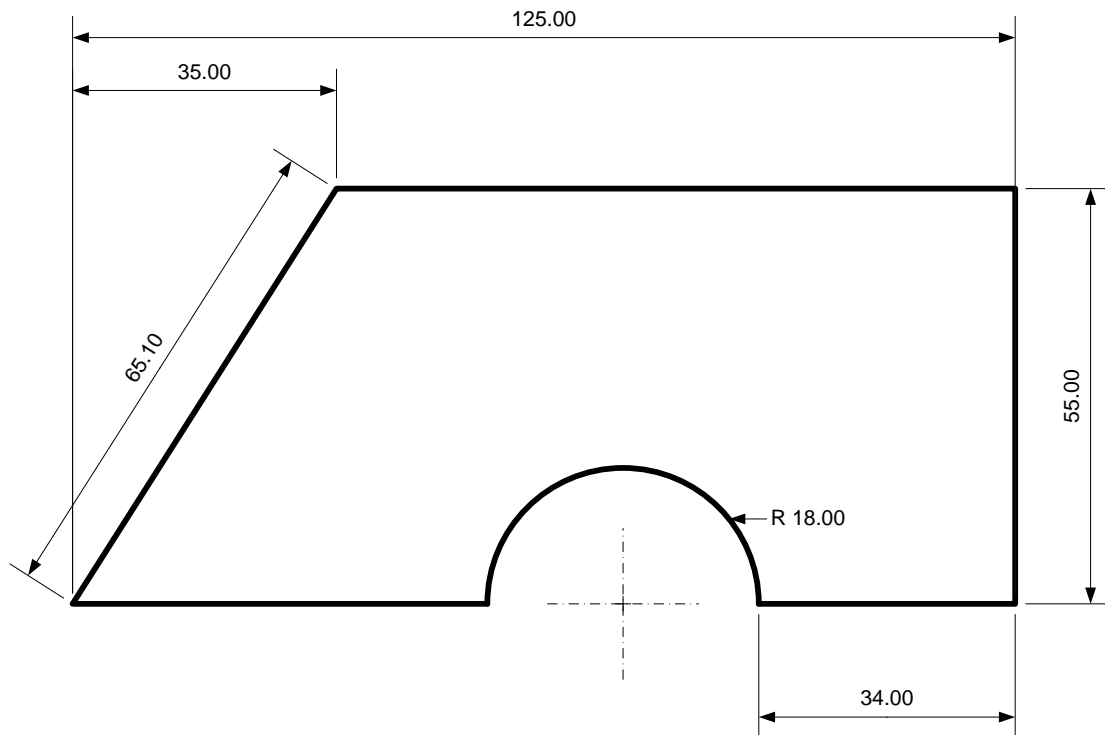


6.



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7.



The radius is 18mm and the diameter is twice the radius.

To work out the circumference of a circle, $2\pi r$, but this is only half a circle.

To work out the area of the shape, work out the triangle and then the rectangle and then deduct the area of the semi-circle.

8.

Draw a x-axis and a y-axis.

Join the point, (-6,-6) to (3,-6). Join (3,-6) to (3,7). Join (3,7) to (-6,-6).

Calculate the area of the shape drawn.