

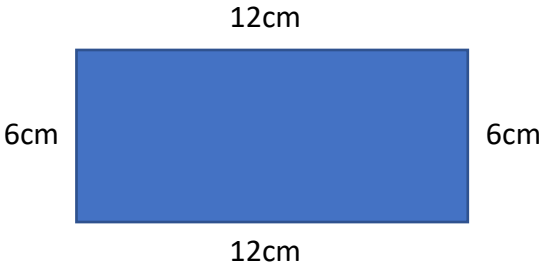
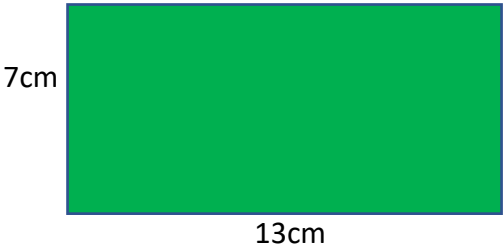
Level 3 Maths Revision – Area and perimeter

A: Area and Perimeter of rectangles

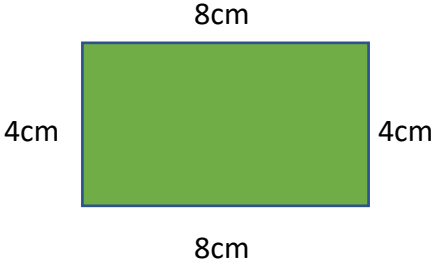
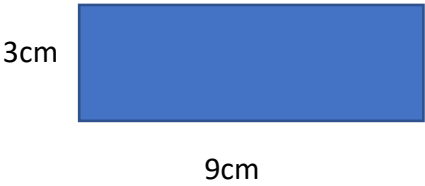
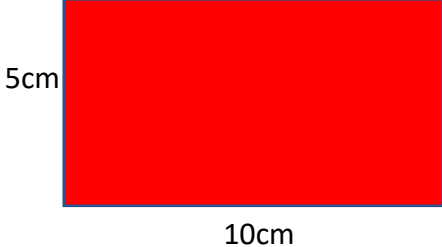
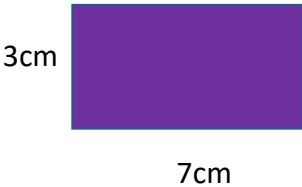
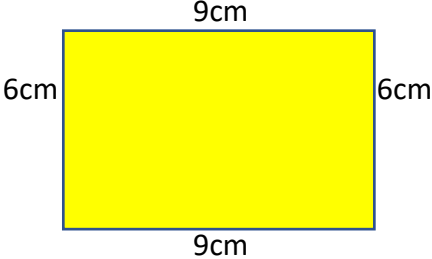
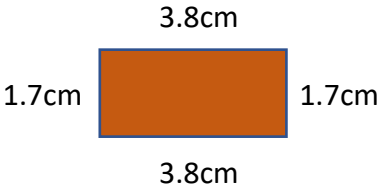
Reminder

The area is the amount of space inside a 2D shape. It is usually measured in mm^2 , cm^2 or m^2 depending on the units given. The perimeter is the distance all the way round the edge of the shape. It is usually measured in mm, cm or m.

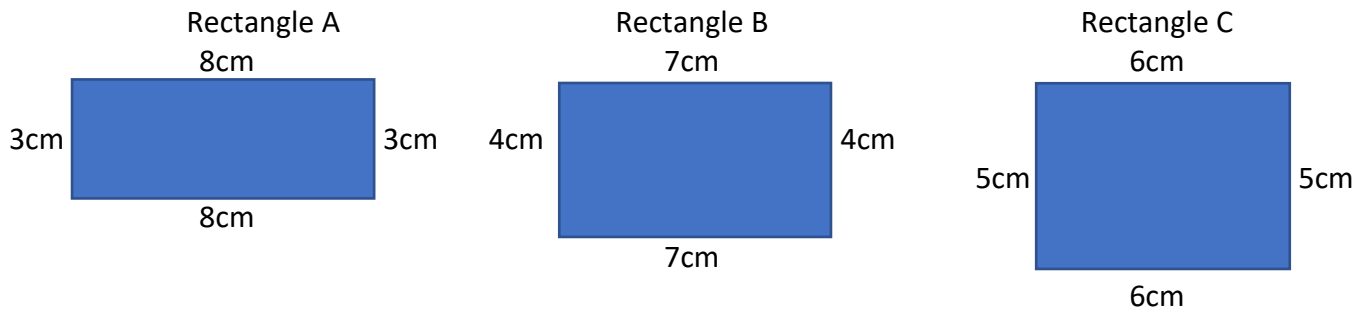
Examples

<p>Area</p>  <p>$\text{Area} = \text{length} \times \text{breadth} = 6 \times 12 = 72\text{cm}^2$</p>	<p>Perimeter</p>  <p>$\text{Perimeter} = 13 + 7 + 13 + 7 = 40\text{cm}$</p>
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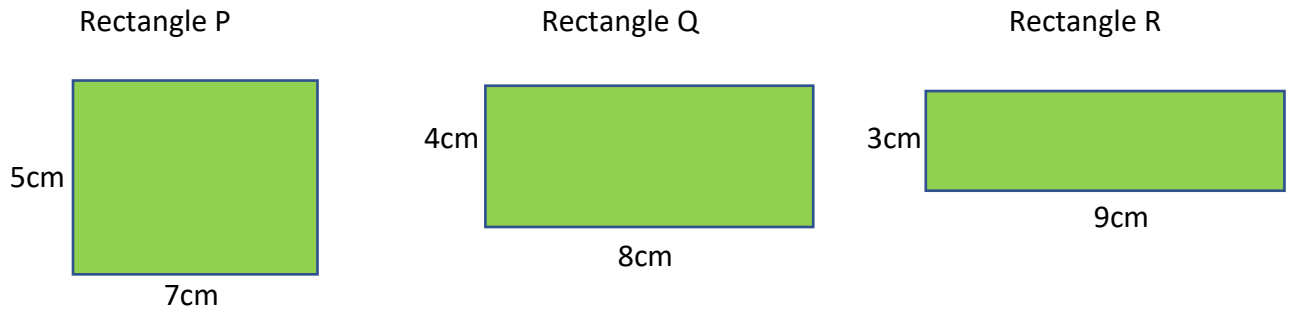
Now try to answer these questions (Read them carefully and remember to show all working!): -

<p>1) Calculate the area of this rectangle.</p>  <p>8cm 4cm 4cm 8cm</p>	<p>2) Calculate the perimeter of this rectangle.</p>  <p>3cm 9cm</p>	<p>3) Calculate the area and the perimeter of this rectangle.</p>  <p>5cm 10cm</p>
<p>4) Is the perimeter of this rectangle less than 20cm? Show your working.</p>  <p>3cm 7cm</p>	<p>5) Is the area of this rectangle greater than 50cm^2? Show your working.</p>  <p>9cm 6cm 6cm 9cm</p>	<p>6) Calculate the area of this rectangle.</p>  <p>3.8cm 1.7cm 1.7cm 3.8cm</p>

7) Which of these rectangles has the greatest area?



8) Which of these rectangles has the smallest perimeter?



9) A rectangle has an area of 40cm^2 . It is 10cm long. What is its breadth?

10) A rectangle has a perimeter of 30 cm. It is 10 cm long

- a) What is its breadth?
- b) What is the area of this rectangle?

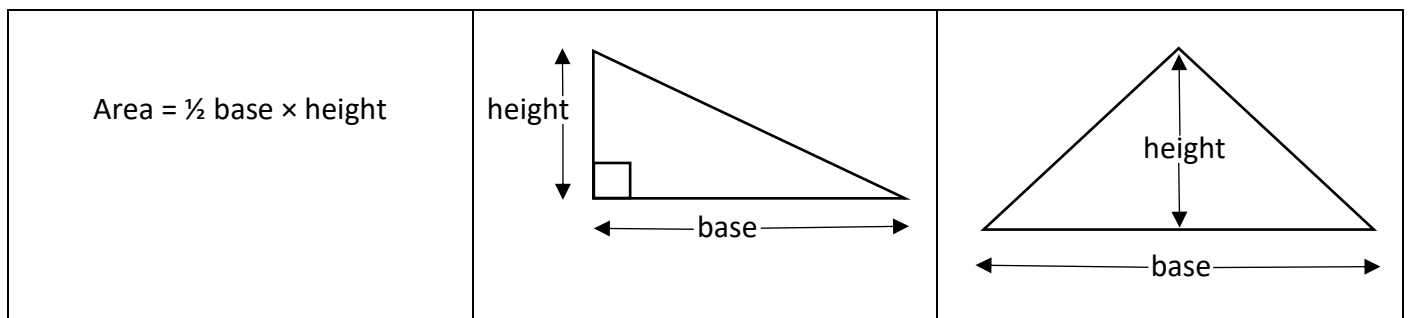
11) Ena's living room is 4m wide and 6m long. She wants new wooden flooring laid. Her friend who is a joiner tells her he can do the job for £25 per m^2 . How much will he charge?

12) A car park is a rectangle 50m long and 20m wide. How much will it cost to put a fence round this car park if the fencing costs £30 per metre and there are gaps for the entrance and exit which are each 5m long?

B: Area and Perimeter of triangles

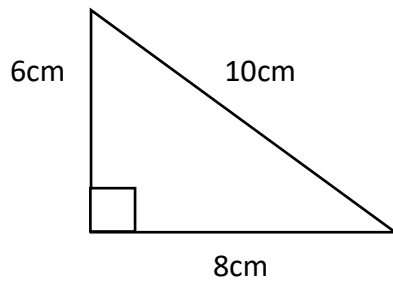
Reminders

Like a rectangle, the perimeter of a triangle is the total length of its sides.



Examples

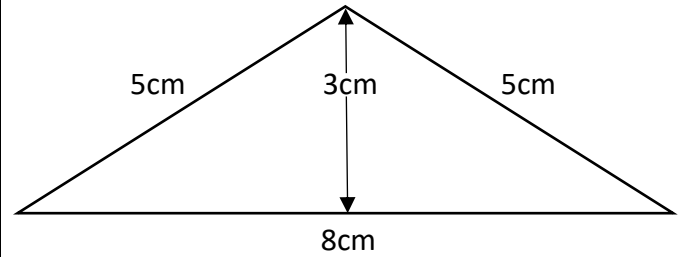
Find the area of this triangle.



$$\begin{aligned}\text{Area} &= \frac{1}{2} \times \text{base} \times \text{height} \\ &= \frac{1}{2} \times 8 \times 6 \\ &= 24\text{cm}^2\end{aligned}$$

NOTE: The base is 8cm, the height is 6cm and the side which is 10cm is not needed to calculate area.

Find the perimeter of this triangle.

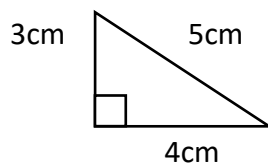


$$\text{Perimeter} = 8 + 5 + 5 = 18\text{cm}$$

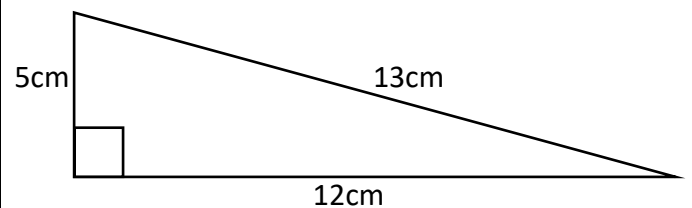
NOTE: The height of 3cm is not included because perimeter is the total distance round the shape.

Now try these examples: -

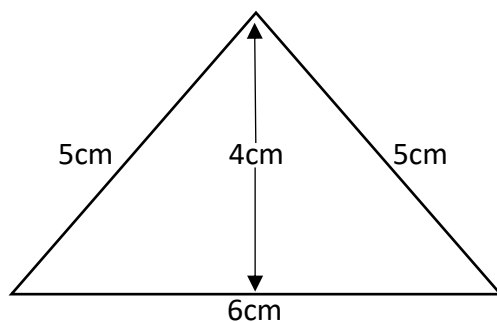
13) Calculate the area of this triangle.



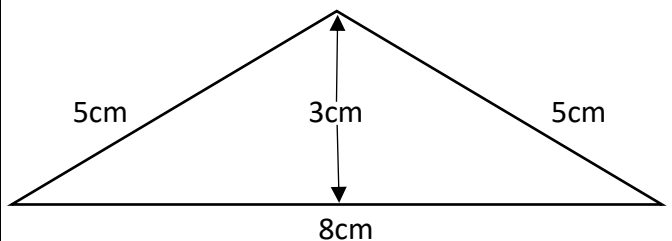
14) Calculate the perimeter of this triangle.



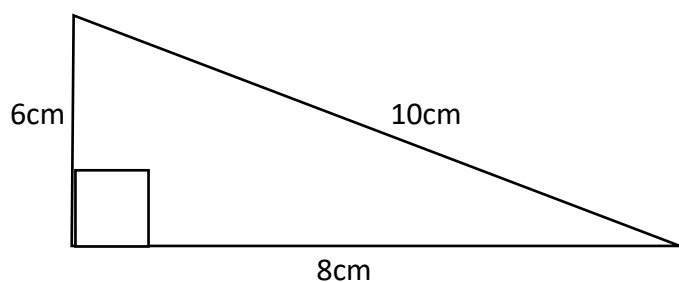
15) Calculate the perimeter of this triangle.



16) Calculate the area of this triangle.



17) Calculate the area of this triangle.



18) Calculate the perimeter of this triangle.

