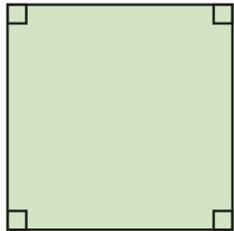


Calculating lengths and angles in shapes

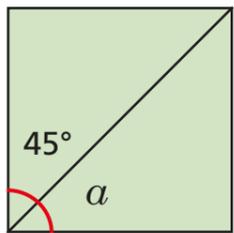
1 Here is a square.



a) What is the size of each of the angles?

90°

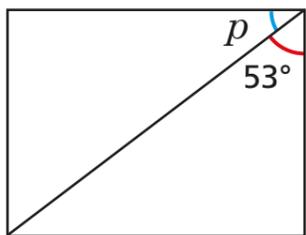
A diagonal line is drawn across the square.



b) Explain why angle a is also 45° .

A right angle is 90° and $90^\circ - 45^\circ = 45^\circ$

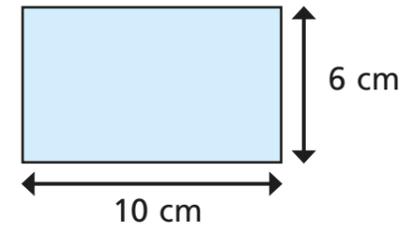
2 Here is a rectangle.



What is the size of the angle marked p ?

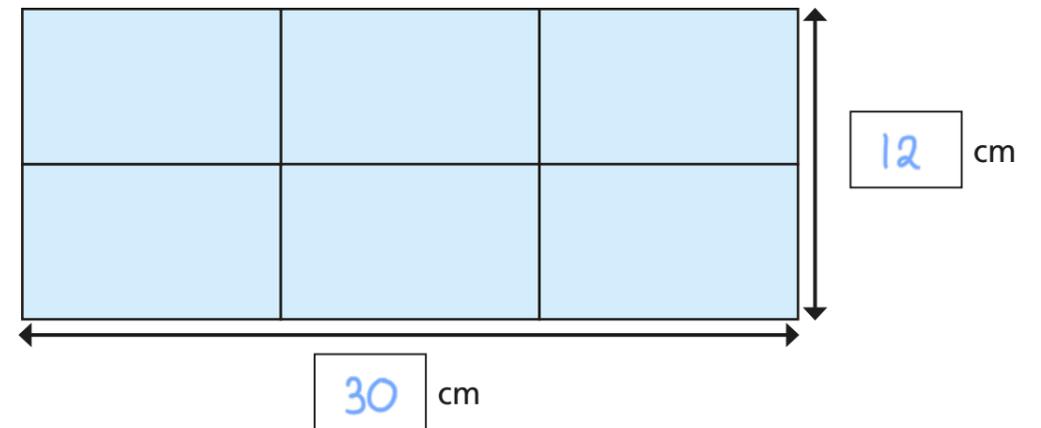
$p = 37^\circ$

3 Tom has some identical paper rectangles.



He makes shapes with the rectangles.

a) Work out the missing length and width of this shape.

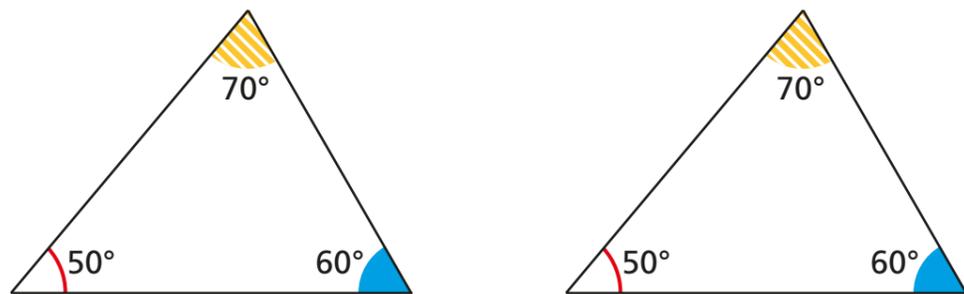


b) Work out the perimeter of this shape.



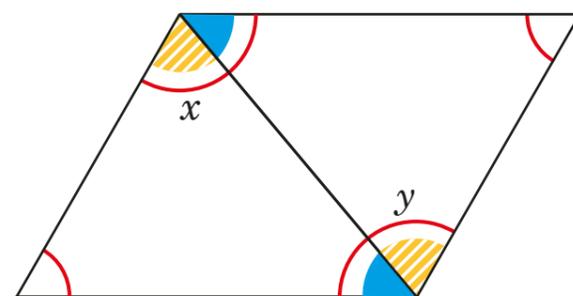
perimeter = 52 cm

4 Dani has two identical triangles.



The two triangles are put together to make a quadrilateral.

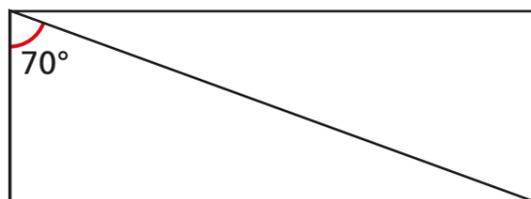
What are the sizes of angles x and y ?



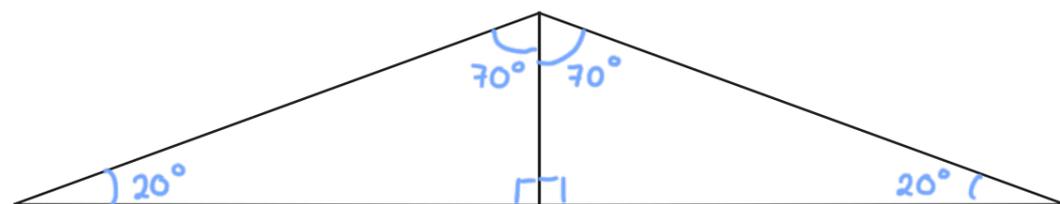
$x = 130^\circ$

$y = 130^\circ$

5 The rectangle is cut in half across the diagonal.



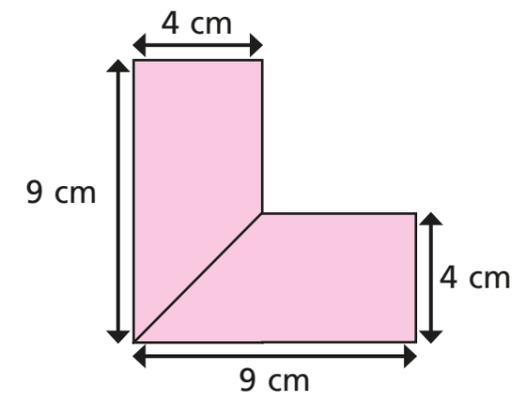
The two triangles are put together to form an isosceles triangle.



Work out the size of the angles in the isosceles triangle and label them on the diagram.

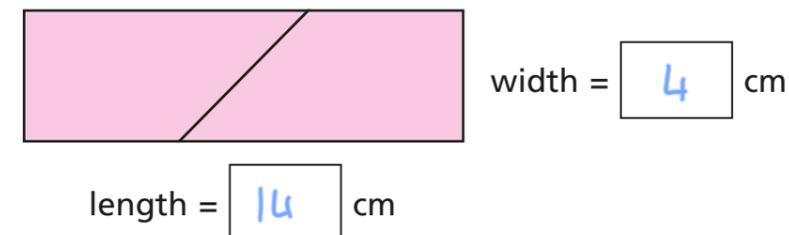
How did you work this out? Talk about it with a partner.

6 A hexagon has these dimensions.



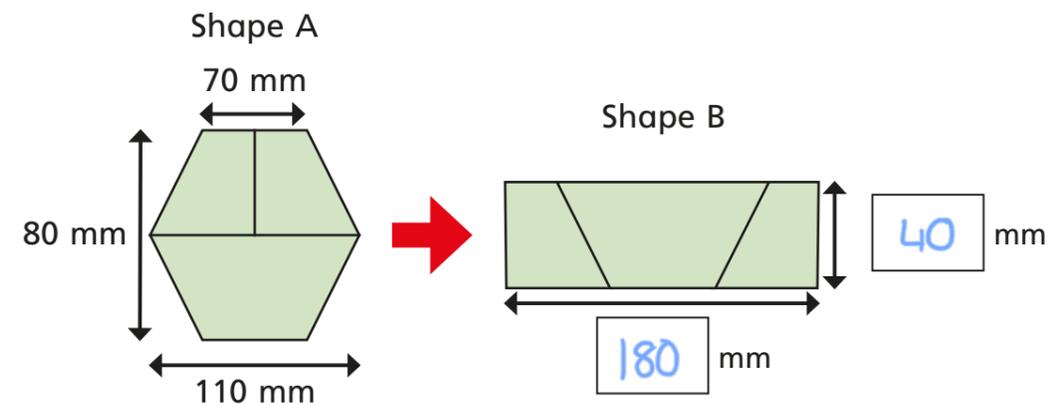
Brett cuts the shape in half and fits the pieces together to make a rectangle.

What is the length and width of the rectangle?



7 Shape A is a regular hexagon.

Shape A is cut up to make shape B.



What is the length and width of the new rectangle?

Label the diagram.