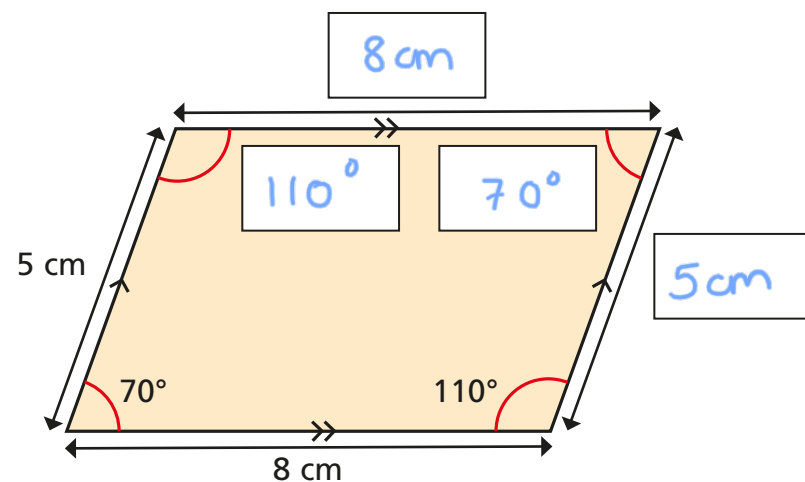


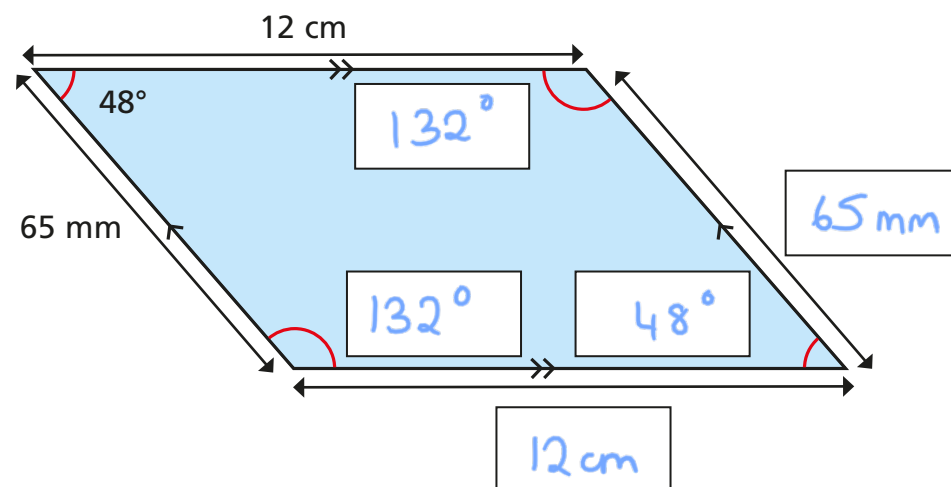
# Identify and calculate with sides and angles in special quadrilaterals

- 1 Here are some parallelograms.  
Find the unknown sides and angles and label the diagrams.

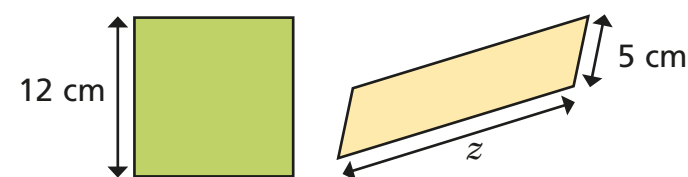
a)



b)



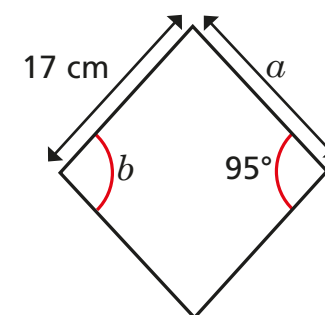
- 2 The perimeter of the square and parallelogram are the same.  
Work out the length of  $z$ .



$$z = 19 \text{ cm}$$

- 3 These shapes are both rhombuses.  
Find the unknown sides and angles.

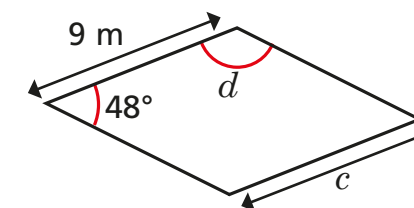
a)



$$a = 17 \text{ cm}$$

$$b = 95^\circ$$

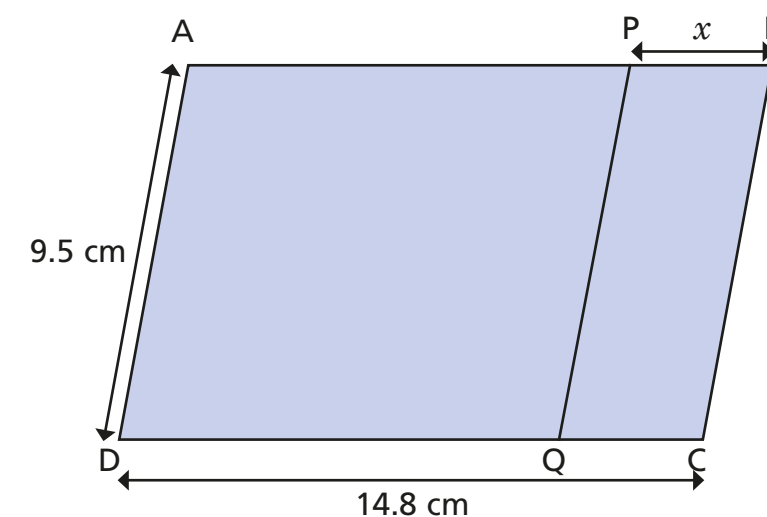
b)



$$c = 9 \text{ m}$$

$$d = 132^\circ$$

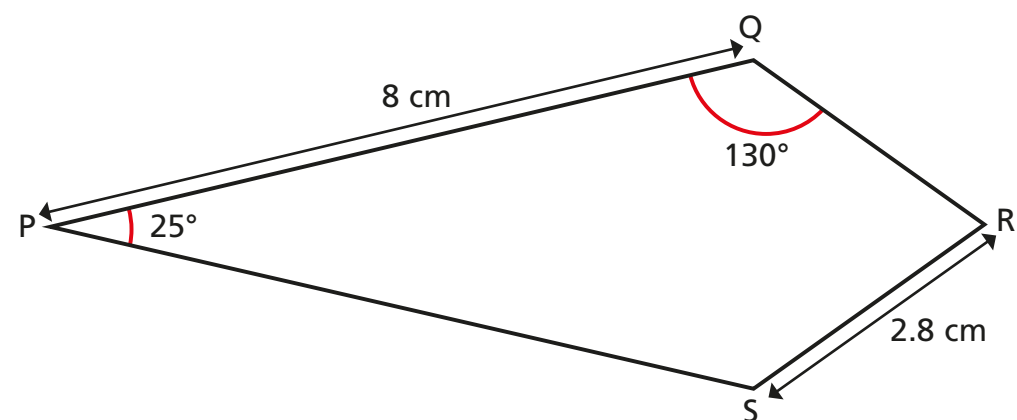
- 4 ABCD is a parallelogram.  
APQD is a rhombus.  
Find the distance marked  $x$ .



$$x = 5.3 \text{ cm}$$

Explain your reasoning.

- 5 PQRS is a kite.



- a) What is the length of side QR?

2.8 cm

- b) What is the size of angle PSR?

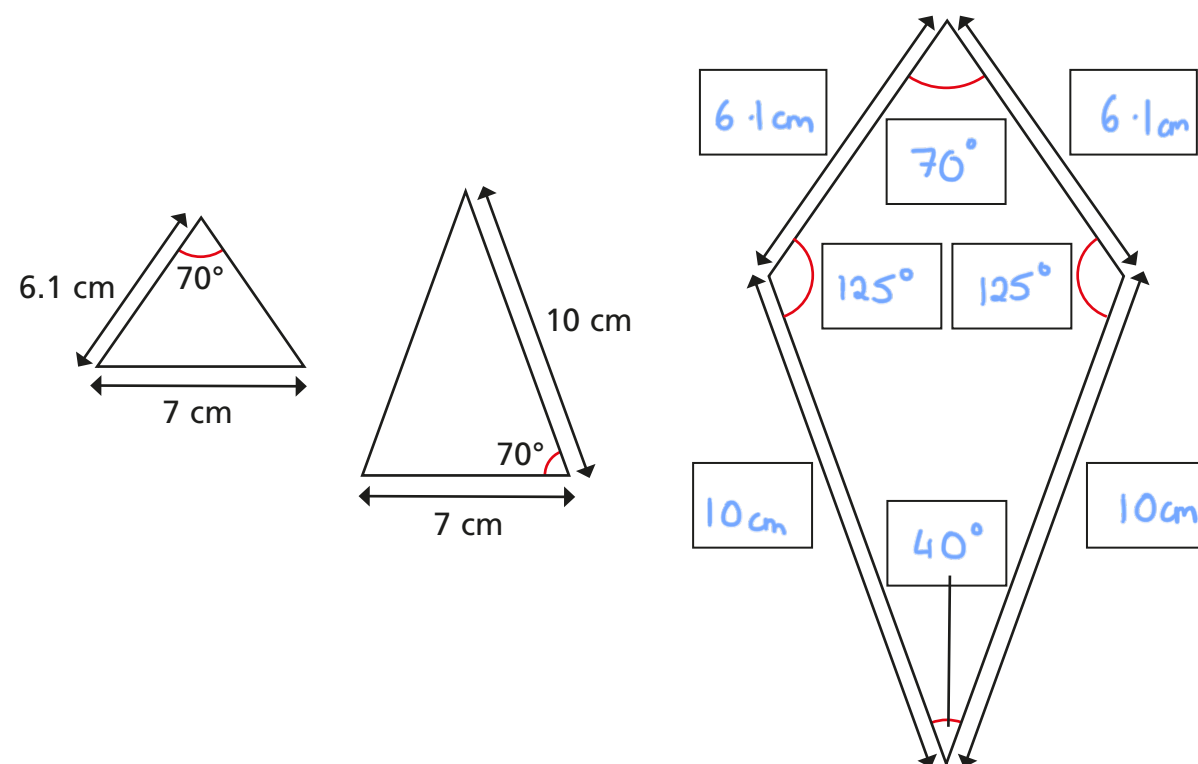
130°

- c) Calculate the size of angle QRS.

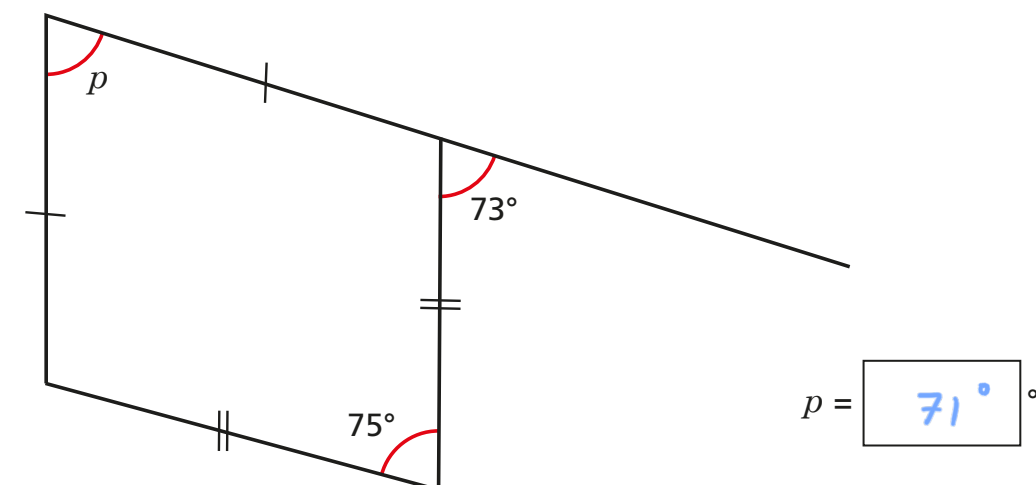
Show all the steps in your working and explain your reasons.

75°

- 6 The two isosceles triangles are used to make a kite. Label the lengths of the sides and the angles on the kite.



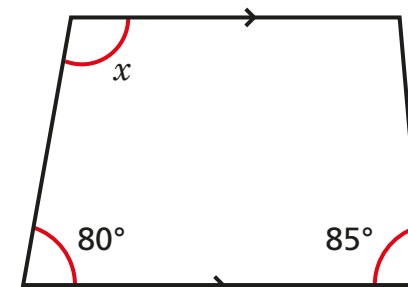
- 7 Work out the size of angle  $p$ .



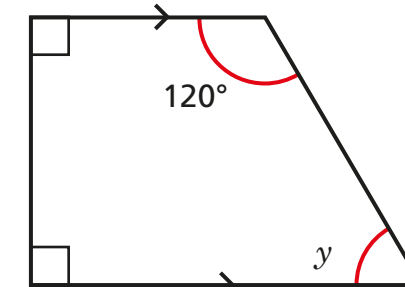
$p = 71^\circ$

- 8 Work out the unknown angles in these trapeziums.

a)



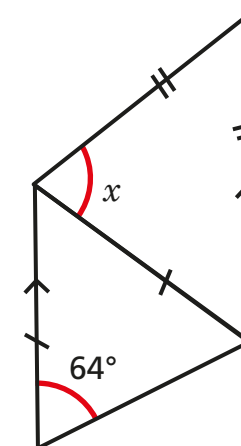
b)



$x = 100^\circ$

$y = 60^\circ$

- 9 Find the size of angle  $x$ . Show all your workings.



$x = 52^\circ$