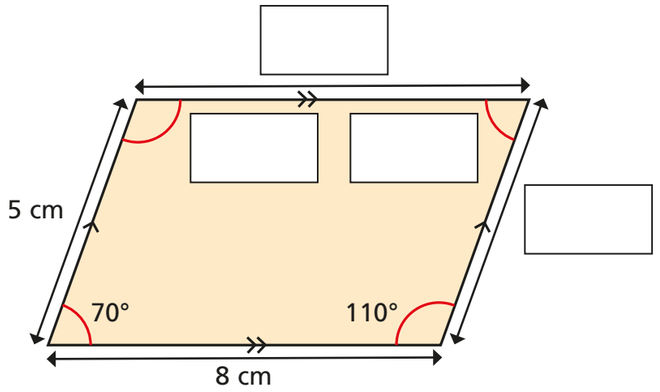
Identify and calculate with sides and angles in special quadrilaterals

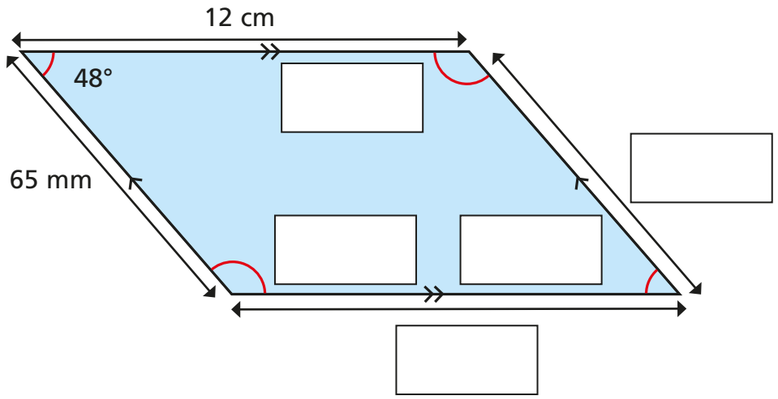
1 Here are some parallelograms.

Find the unknown sides and angles and label the diagrams.

a)

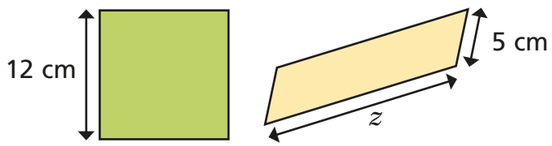


b)



2 The perimeter of the square and parallelogram are the same.

Work out the length of z.

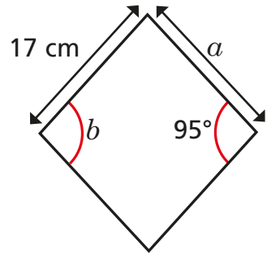


$z =$ ☐ cm

3 These shapes are both rhombuses.

Find the unknown sides and angles.

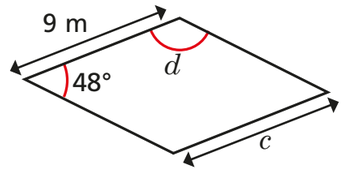
a)



$a =$ ☐ cm

$b =$ ☐ °

b)



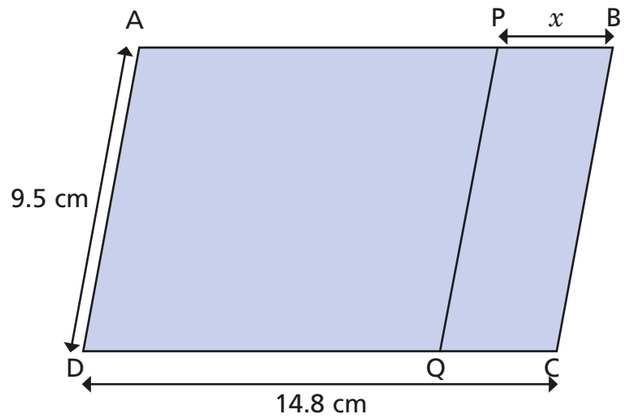
$c =$ ☐ m

$d =$ ☐ °

4 ABCD is a parallelogram.

APQD is a rhombus.

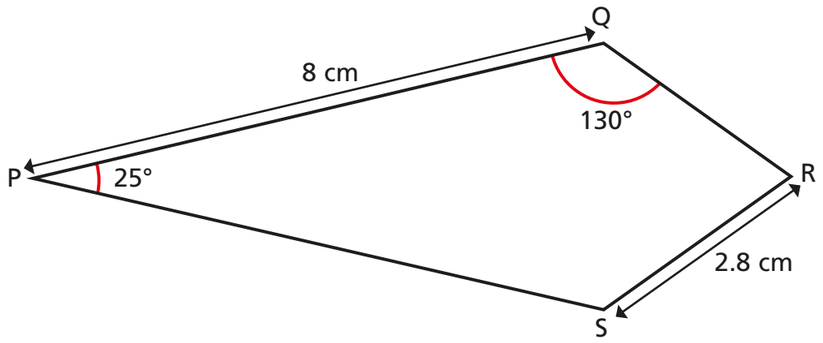
Find the distance marked x.



$x =$ ☐ cm

Explain your reasoning.

5 PQRS is a kite.



a) What is the length of side QR? ☐ cm

b) What is the size of angle PSR? ☐°

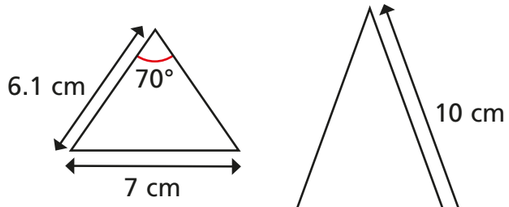
c) Calculate the size of angle QRS.

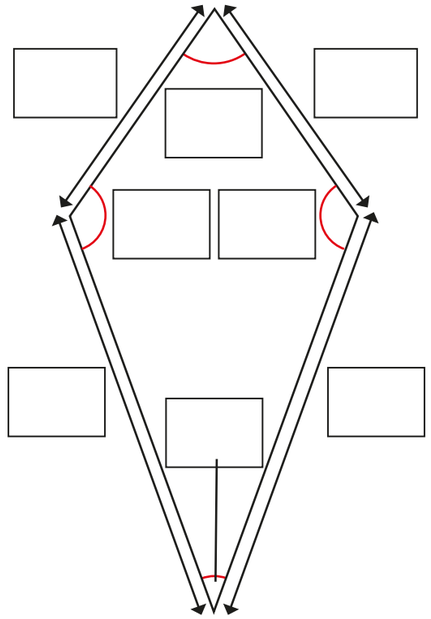
Show all the steps in your working and explain your reasons.

☐°

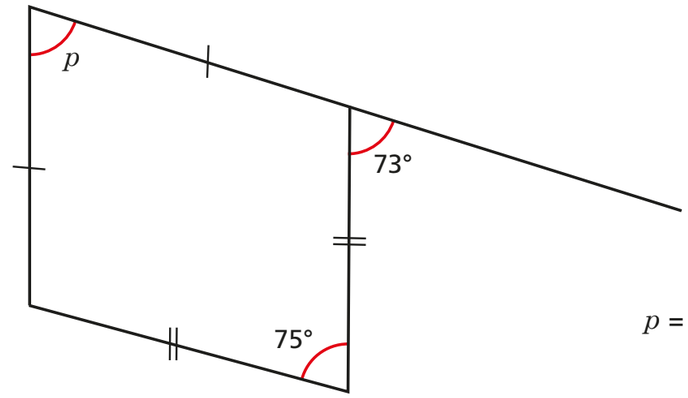
6 The two isosceles triangles are used to make a kite.

Label the lengths of the sides and the angles on the kite.





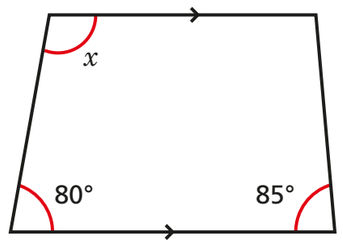
7 Work out the size of angle p.



$p =$ ☐°

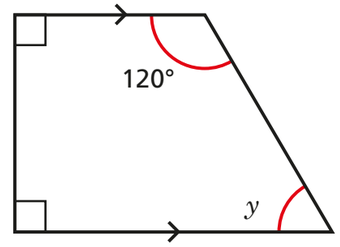
8 Work out the unknown angles in these trapeziums.

a)



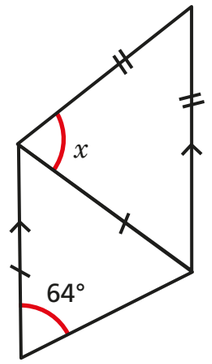
$x =$ ☐°

b)



$y =$ ☐°

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



$x =$ ☐°