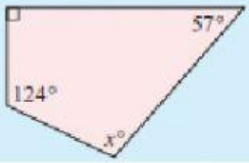
Angles of a Quadrilateral

From **Investigation 1** you should have discovered that:

The sum of the angles of a quadrilateral is $360°$.

$$a + b + c + d = 360$$

Find the value of x, giving a brief reason:



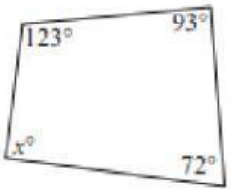
Using the angles of a quadrilateral result,

$$x + 57 + 90 + 124 = 360$$
$$\therefore \quad x + 271 = 360$$
$$\therefore \quad x = 89$$

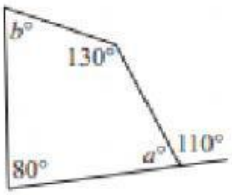
EXERCISE

1 Find the values of the variables, giving brief reasons for your answers:

a

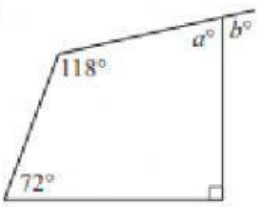


b

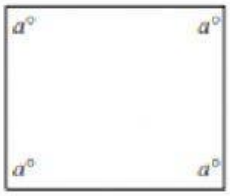


c

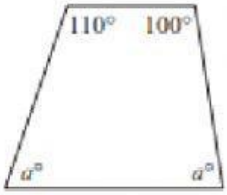
d



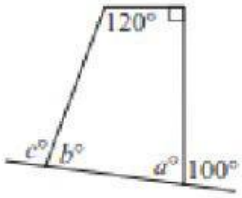
e



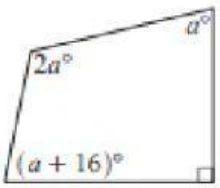
f



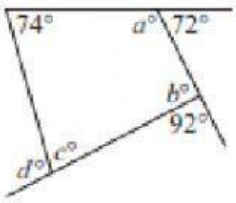
g



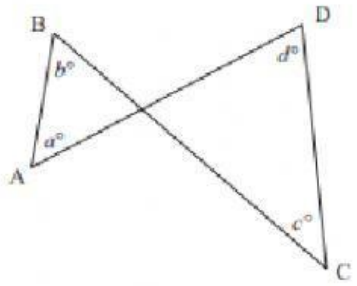
h



i



2



Consider the illustrated figure ABCD.

- **a** Why is it not a polygon?
- **b** Explain why $a + b = c + d$.
- **c** Show that $a + b + c + d$ must always be less than 360^o.

a.

b.

c.