

Angles of a Quadrilateral



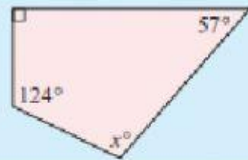
From **Investigation 1** you should have discovered that:

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,

$$x + 57 + 90 + 124 = 360$$

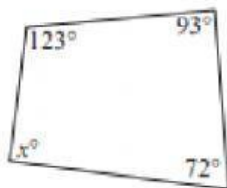
$$\therefore x + 271 = 360$$

$$\therefore x = 89$$

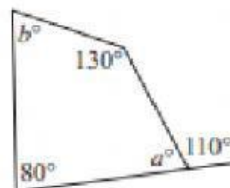
EXERCISE

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

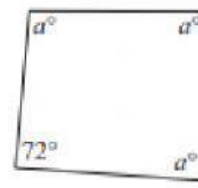
a



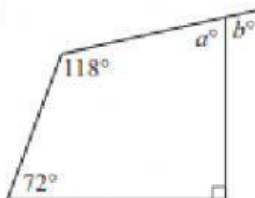
b



c



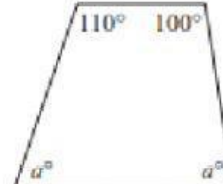
d



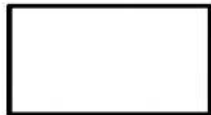
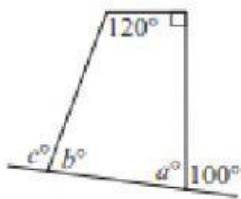
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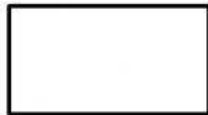
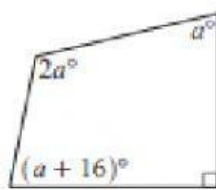
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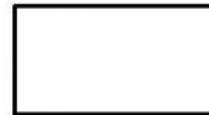
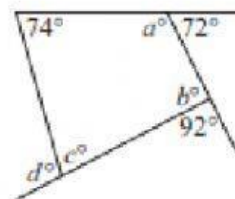
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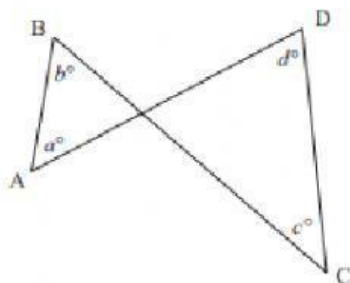
h



i



2



Consider the illustrated figure ABCD.

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

a.

b.

c.

