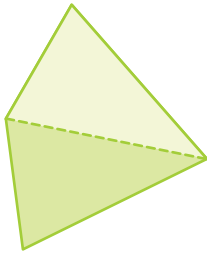


13D: Interior angles of a polygon

1 Divide each polygon into triangles, and complete the statements.

a



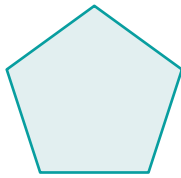
A quadrilateral has sides.

It divides into triangles.

The angles in one triangle sum to °.

The angles in a quadrilateral sum to $180^\circ \times 2 =$ °.

b

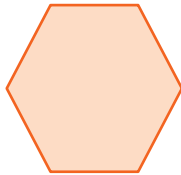


A pentagon has sides.

It divides into triangles.

The angles in a pentagon sum to $\times$ = °.

c

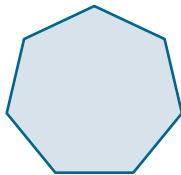


A hexagon has sides.

It divides into triangles.

The angles in a hexagon sum to $\times$ = °.

d



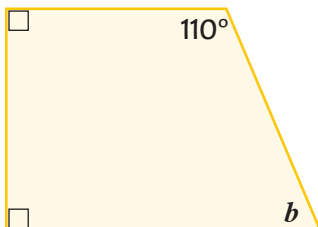
A heptagon has sides.

It divides into triangles.

The angles in a heptagon sum to $\times$ = °.

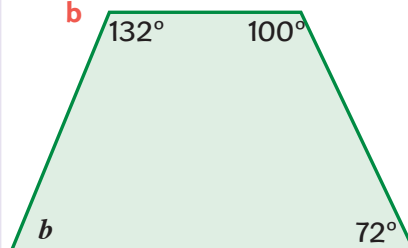
2 Find the value of angle b .

a



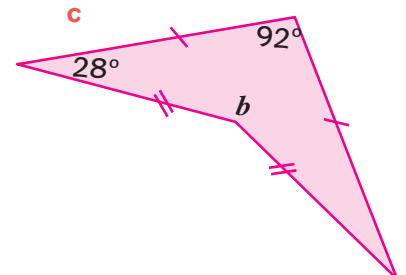
$$b = \text{ }^\circ$$

b



$$b = \text{ }^\circ$$

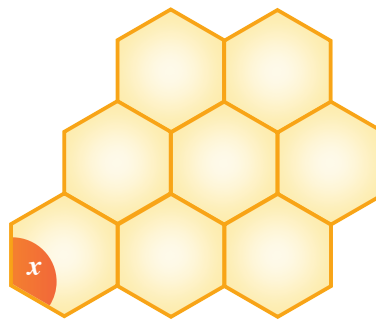
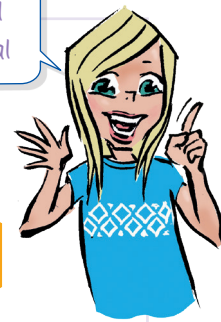
c



$$b = \text{ }^\circ$$

- 3 Bees store their honey in honeycombs, where every cell is a **regular** hexagon. Find the size of each interior angle, x .

A **regular** polygon has all sides and all angles equal



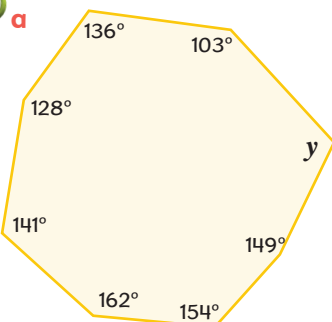
$$x = \underline{\hspace{2cm}}^{\circ}$$

- 4 The Pentagon is a huge building that is the main headquarters for the US military. Its shape is a **regular** pentagon. Find the size of each interior angle, x .

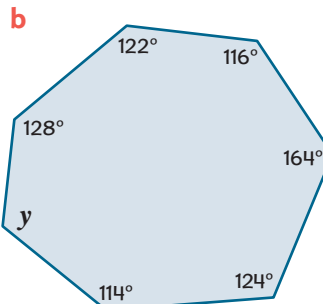


$$x = \underline{\hspace{2cm}}^{\circ}$$

- 5 Find the size of the angle marked as y .



$$y = \underline{\hspace{2cm}}^{\circ}$$



$$y = \underline{\hspace{2cm}}^{\circ}$$

Challenge

- 6 Write an equation and solve it to find the value of y .

