


Key concepts and questions

How can a missing side be found?

Make use of known and related facts.

The perimeter of this shape is 36cm.  4cm

- If the short side equals 4cm, then so does its opposite side. In total, the short sides equal 8cm, so subtract this from the perimeter. $36\text{cm} - 8\text{cm} = 28\text{cm}$. The total of the two longer lengths is 28cm.

- $a = \frac{1}{2}$ of $28\text{cm} = 14\text{cm}$.

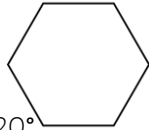
How can a missing angle be calculated?

Make use of known and related facts.

The angles in a regular hexagon add up to 720° .

In a regular shape, each angle is equal.

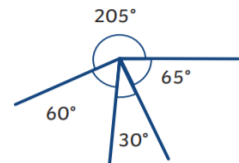
There are 6 angles in a hexagon, so 720° is shared between 6. $720^\circ \div 6 = 120^\circ$. So, each angle is 120° .



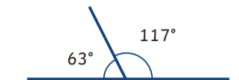
Key Vocabulary

Rectilinear Shape	A shape where each edge meets at 90° degrees
Length	How long each side of a shape is
Angles	Right angle - 90° Acute angle - less than 90° Obtuse angle - between 90 and 180° Reflex angle - between 180 and 360° Angles on a straight line = 180° Angles around a point = 360°
Degrees	Unit of measure for angles
Deduce	To work something out from related facts
Related Facts	Being able to work something out from a fact that is related to another, e.g. knowing the opposite sides in a rectangle are of equal length.

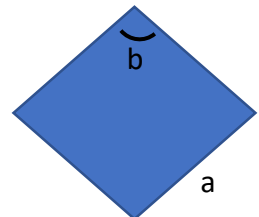
Representations



Angles around a point always equal 360° .

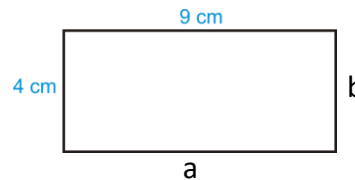


Angles on a straight line always equal 180° .

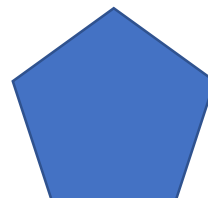


We use letters to represent missing lengths and angles.

Making connections



Opposite sides on a rectangle are equal, so $a = 9\text{cm}$ and $b = 4\text{cm}$



In a regular shape, each side is the same length and each angle is equal. If you know one side is 5 cm, you know each side is 5cm, and if one angle is 108° then each angle is 108° .

Prior learning

- Measuring angles
- Right angles
- Properties of 2D shapes
- Regular and irregular shapes
- Using the inverse e.g. the inverse of $+$ is $-$, the inverse of $-$ is $+$, the inverse of \div is \times and the inverse of \times is \div