**Shape Unit 3**

**Problem solving and reasoning questions**

Draw a triangle with two sides of 8cm and an angle of 60**°** between them.

Now draw an identical triangle using the base of your first triangle as one of the sides of the new triangle.

What 4-sided shape have you ended with?

Write the missing angles.

A triangle with angles: 45**°**+ 100**°** +

A pentagon with two angles of 105**°** and two angles of 90**°**. What is the fifth angle?

Write the sum (total) of the angles in:

* A hexagon
* An octagon
* A dodecagon

**Shape Unit 3**

**Problem solving and reasoning questions**

Draw a triangle with two sides of 8cm and an angle of 60**°** between them.

Now draw an identical triangle using the base of your first triangle as one of the sides of the new triangle.

What 4-sided shape have you ended with? A rhombus

Write the missing angles.

A triangle with angles: 45**°**+ 100**°** + 35**°**

The three angles must add to 180**°.**

A pentagon with two angles of 105**°** and two angles of 90**°**. What is the fifth angle? 150**°.** The five angles of a pentagon total 540°.

Write the sum (total) of the angles in:

* A hexagon 720°.
* An octagon 1080°.
* A dodecagon 1800°.

As the number of sides of a polygon increase by 1 the angle sum increases by 180°. So, a quadrilateral is 360°, a pentagon 540°, a hexagon 720° and so on. The formula would be 180(*n* – 2), where *n* is the number of sides of the shape.