MATHS

YEAR 6
GEOMETRY: PROPERTIES OF SHAPE

NC. Objective: To compare and classify geometric shapes based on their properties and sizes and find unknown angles in shapes.
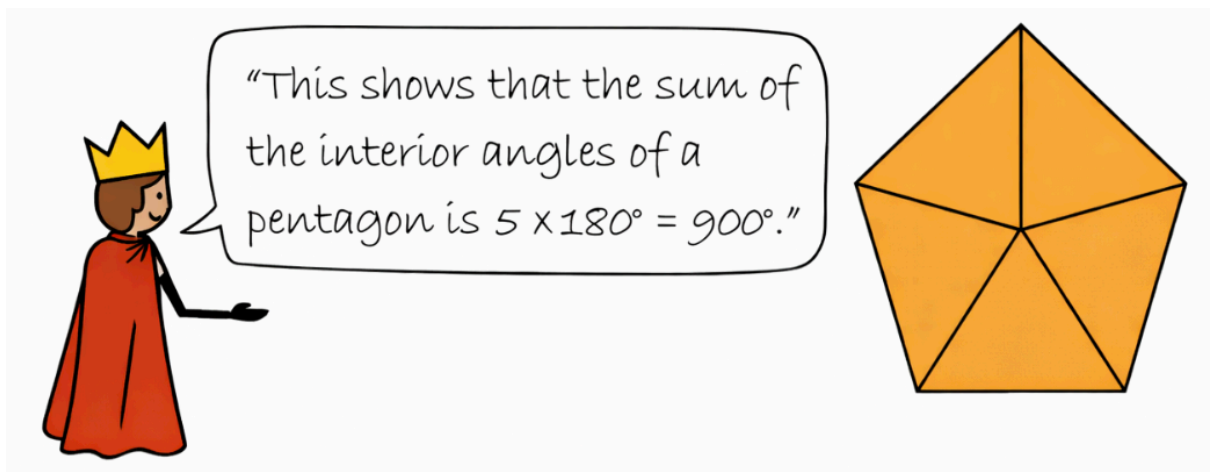
1. Paulina is redesigning the palace courtyard using regular hexagonal tiles.

   Each side of a tile measures 2m.

   a) What is the perimeter of one tile?
   b) What is the total distance around 7 tiles laid in a row?
   c) Explain how you know the shape is regular.

2. King Leontes' emblem is made from a regular pentagon split into five equal triangles.

   "This shows that the sum of the interior angles of a pentagon is 5 x 180° = 900°."

   Do you agree with Leontes?
   Explain your reasoning and show the calculations for your answer.

3. Hermione's palace window is shaped as a rectangle with a triangle roof on top.

   The rectangle has interior angles of 90°.
   The triangle roof has two equal angles of 40°.

   a) What is the size of the third angle in the triangle?
   b) What is the total number of right angles in the window?
   c) Explain how the properties of the shapes helped you to answer a) and b).