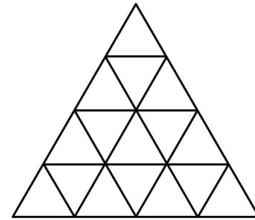# Angles, Polygons and Geometrical Proof

Stage 3 ★
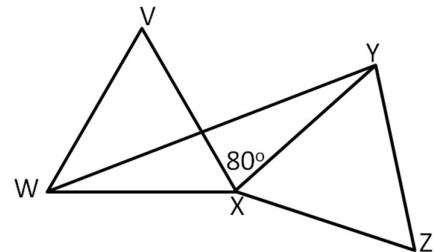**Mixed Selection 4**

1. **Isometric rhombuses**

   The diagram shows a grid of 16 identical equilateral triangles.

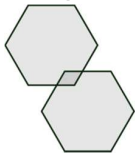   How many rhombuses made up of two adjacent small triangles are there?

2. **Equilateral pair**

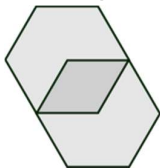   In the diagram, VWX and XYZ are congruent equilateral triangles, and $+\angle VXY$ is 80°.

   What is the size of $\angle VWY$?

3. **Overlapping beer mats**
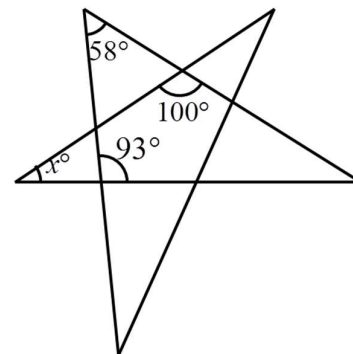
   Two beer mats, each the shape of a regular hexagon with area $36cm^2$, are placed on top of each other, as shown .

   If they are placed so that the corner of the lower beer mat is in the centre of the higher beer mat, as shown below, what is the area of the overlap?

4. **Angle please**

   In the diagram, what is the value of x?

These problems are adapted from UKMT (ukmt.org.uk) and SEAMC (seamc.asia) problems.