nrich

An Equilateral Triangular Problem

The picture below shows an equilateral triangle, with lines drawn between various midpoints.

Imagine cutting along the lines to make nine smaller shapes.

What are the angles in each of your smaller shapes?

If the area of the smallest equilateral triangle is one unit, what is the area of each of the other shapes?

Cut along the lines to make the nine smaller shapes. Take a collection of the pieces and rearrange them to make different shapes.

Using the nine smaller shapes:

- How many different trapezia (which are not parallelograms) can you make?
- How many different parallelograms (which are not rectangles) can you make?
- How many different rectangles can you make?
- Which other quadrilaterals can you make?

