# THE KOCH SNOWFLAKE

The Koch snowflake is a design based on the equilateral triangle. Follow the instructions below to construct a large version of the snowflake. In the following diagrams, tiny circles mark the ends of a segment, or where a segment has been divided into three equal parts. (You need not draw the tiny circles yourself.) Use a sharp, erasable pencil.
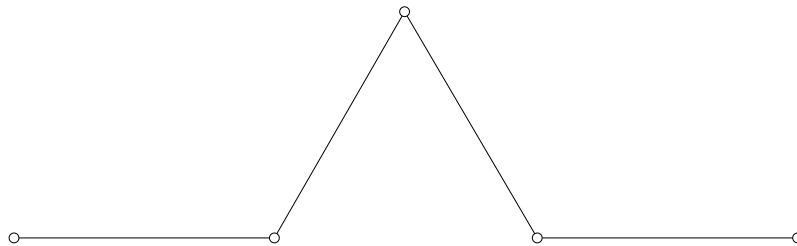
1.   Draw a line 27 cm long, parallel to one edge of a sheet of paper (A4 size or bigger).
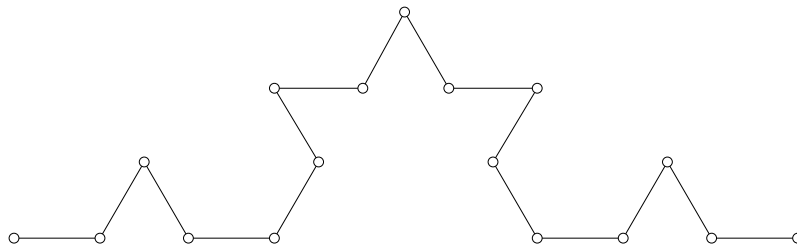
27 cm
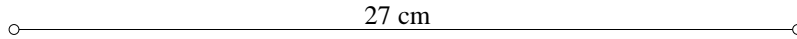
2.   Divide the line into three equal segments, each 9 cm in length .
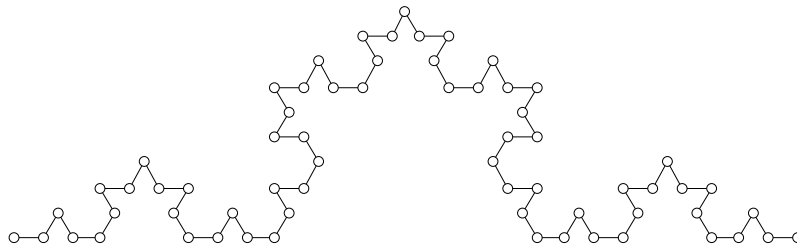
9 cm   9 cm   9 cm
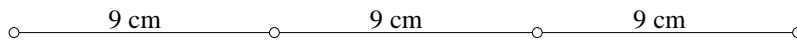
3.   Construct an equilateral triangle (use Geo-Pro to measure 60° angles) on the middle segment, then erase the middle segment.

5.   Now divide each remaining segment into three equal parts, construct equilateral triangles on each part and erase the base of each new triangle.
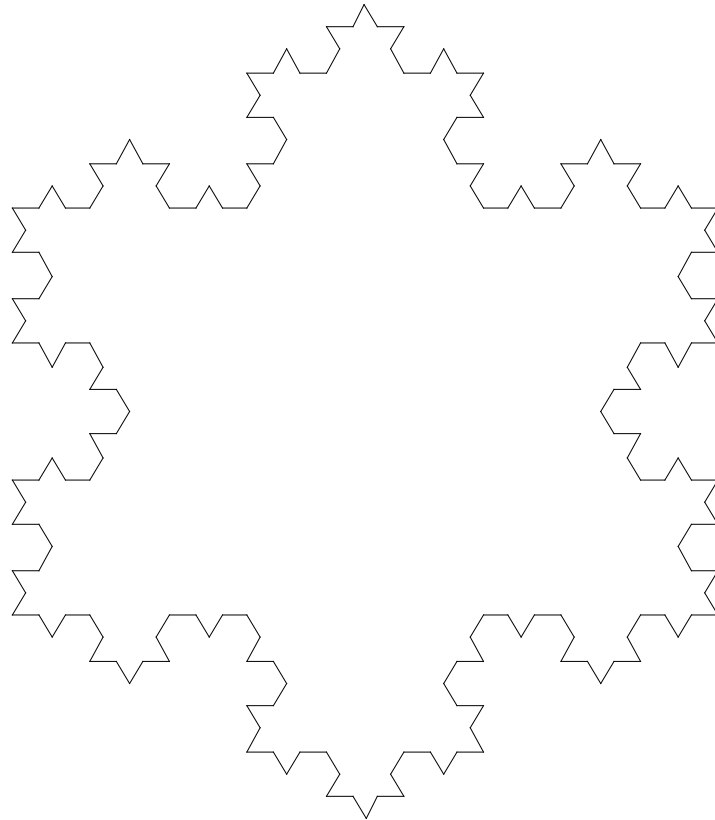
6.   Repeat this process once more to produce the design below.

7.   Attach three designs (you may wish to combine with other students) along the edges of an equilateral triangle of side length 27 cm to form a complete snowflake.

A computer generated snowflake involving one more division of sides is shown below.