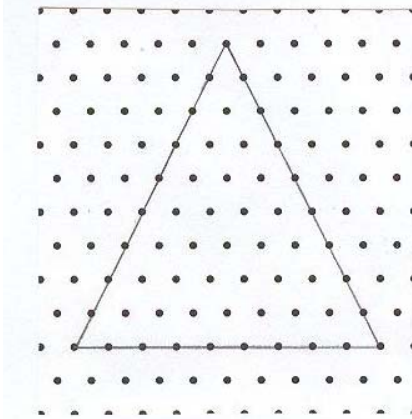


# The Koch Snowflake

These are the first three stages in creating the Koch snowflake. Fill in the perimeters. Let every space be equal to one unit.

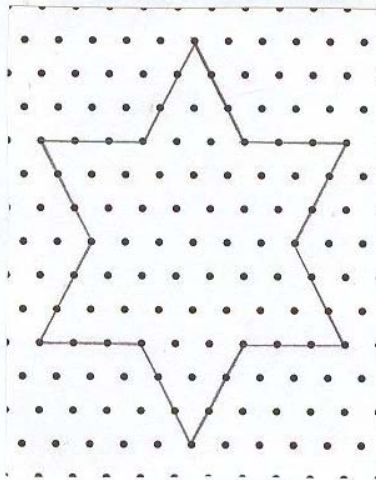
Stage 1



Perimeter at Stage 1

.....

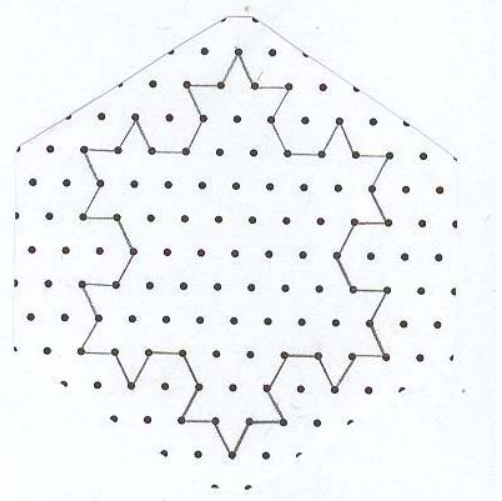
Stage 2



Perimeter at Stage 2

.....

Stage 3



Perimeter at Stage 3

.....

At each stage, every old side is replaced with how many new sides ? .....

The length of each new side is what fraction of the length of the old side?.....

What is the perimeter of stage 2 divided by stage 1?.....

What is the perimeter of stage 3 divide by stage 2?.....

Can you predict the length of the perimeter at stage 4?.....

What is the general rule for the length of the perimeter at stage  $n$ ?.....

What will happen to the length of the perimeter if we keep repeating this process for ever ? (To form the limiting shape)

.....

What do you think will happen to the area as we keep repeating this process?

.....