

Fractal Dimensions Exploration Questions

This activity allows the user to calculate the fractal dimension of a series of regular fractals without access to a calculator. Generators for eleven line deformation fractals and two geometric fractals are shown for which the scale factor and the number of copies must be input correctly.

Directions: Work through the eleven line deformation and two geometric fractals, filling in the chart below.

Sketch of Generator	Scale Factor	Number of Copies	Fractal Dimension

Answer the following questions:

1. Which fractal has the smallest dimension? The largest?
2. Put the fractals in order by dimension from smallest to largest. Now look at the fractals generated by each, and build a hypothesis about how the dimension relates to the final fractal. (Hint: How "filled in" are the fractals?)