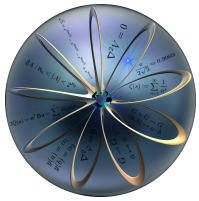

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fractal

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There are several ways of defining a fractal, and a reader will need to reference their source to see which definition is being used.

Perhaps the simplest definition is to define a *fractal* to be a subset of $\mathbb{R}^n$ with Hausdorff dimension greater than its Lebesgue covering dimension. It is worth noting that typically (but not always), fractals have non-integer Hausdorff dimension. See, for example, the Koch snowflake and the Mandelbrot set (named after Benoit Mandelbrot, who also coined the term "fractal" for these objects).

A looser definition of a *fractal* is a "self-similar object". That is, a subset or $\mathbb{R}^n$ which can be covered by copies of itself using a set of (usually two or more) transformation mappings. Another way to say this would be "an object with a discrete approximate scaling symmetry".

See also the discussion near the end of the entry `http://planetmath.org/HausdorffDimension` dimension.