1072-51-22 **Sam Northshield*** (northssw@plattsburgh.edu), Dept. of Mathematics, SUNY, 101 Broad St., Plattsburgh, NY 12901. *Continued fractions and the Sierpinski gasket.* Preliminary report.

The continued fraction algorithm, thought of as iteration of the Gauss map $\{1/x\}$ on the unit interval, is equivalent (by conjugation via Minkowski's question mark function, ?(x)) to the iteration of a certain function, f(x), that is easily understood in terms of the binary expansion of x. The Sierpinski gasket is a natural generalization of the unit interval (up one dimension) and the iteration of f(x) can be generalized accordingly. We shall discuss the geometry involved as well generalize the concepts of rational number, quadratic surd, ?(x), Ford circles, continued fractions, and some of the theorems that connect them. (Received May 20, 2011)