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The Koch snowflake  $KS$  is a nondifferentiable curve. We consider the compact planar region  $\Omega(KS)$  with boundary  $KS$  to be a mathematical billiard table. A priori, such a table is not well defined, because there is no way of determining reflection in the boundary. In this talk, we give a construction of periodic orbits of the Koch snowflake billiard  $\Omega(KS)$ . Such a construction consists of inverse limit sequences of particular periodic orbits of the prefractal approximations  $\Omega(KS_n)$ . We provide experimental evidence suggesting the existence of a wider class of orbits, support for an analogue of the well known Veech dichotomy, and a possible approach to expressing  $\Omega(KS)$  as a well-defined billiard with a well-defined phase space “ $KS \times S^1$ ”. (Received August 08, 2010)