Polygonal Billiards: Parts I, II, and III

Polygonal billiards have been studied since the turn of the beginning of the 20th century. Recently there has been a flurry of activity in the field. In these lectures I will discuss some of the history of the problem, some results from the past and motivate some of the questions of current interest.

Lecture 1: I will discuss history and motivation and I will look closely at the case of the square.

Lecture 2: I will look at the case of the square from a different viewpoint. I will describe classes of polygons in which are like the square and give examples of polygons which show distinctly different behavior.

Lecture 3: I will explain ways in which rational triangles differ from one another and make a connection with Dynkin diagrams. I will talk about conjectures and future directions.