

SPS Problem of the Week 2/13/2021-2/20/2021

Problem 1. A billiard ball (of infinitesimal diameter) strikes ray \vec{BC} at point C , with angle of incidence α as shown. The billiard ball continues its path, bouncing off line segments AB and BC according to the rule "angle of incidence equals angle of reflection." If $|AB| = |BC|$, determine the number of times the ball will bounce off the two line segments, including the first bounce at C . Your answer will depend on both α and β .

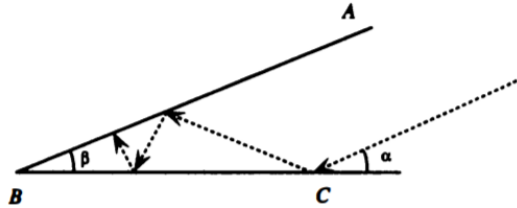


Figure 1: