Consider dynamical billiards where the length of paths is given by some sequence.

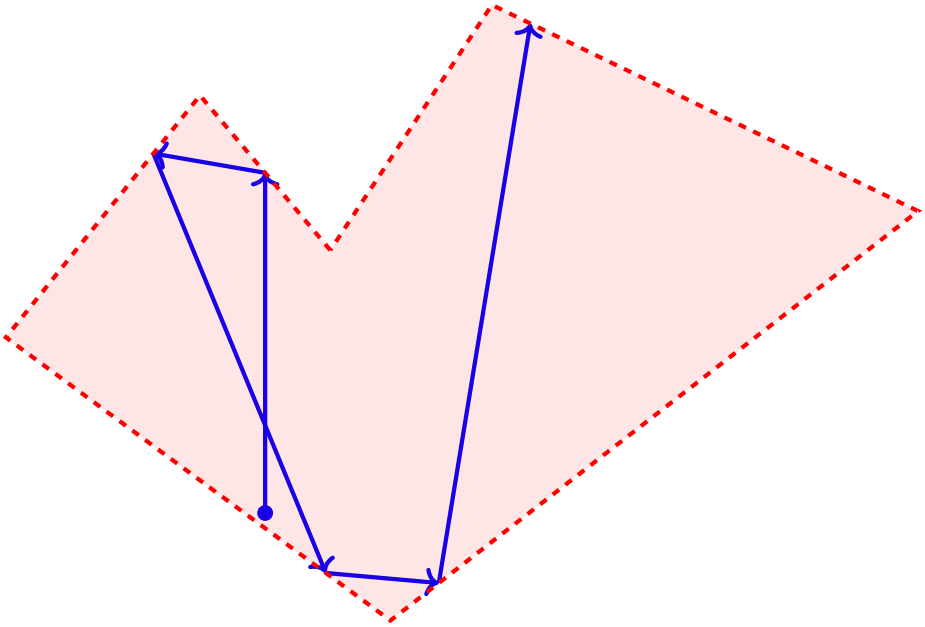

Figure 1: An example of a path for $(3, 1, 4, 1, 5)$

Question. Given a sequence of lengths, can we describe a billiards table together with an initial position, and initial velocity that results in the given sequence of lengths?

Related.

1. Given a sequence of lengths, can we compute the smallest polygon by number of sides containing a corresponding billiards path?
2. Does every sequence of lengths correspond to some convex billiards table?
3. What if we want the path to form a cycle?
4. What if we want the billiards path to be non-self-intersecting?

References.

`https://www.instagram.com/p/CrYp3fTOPMu/`