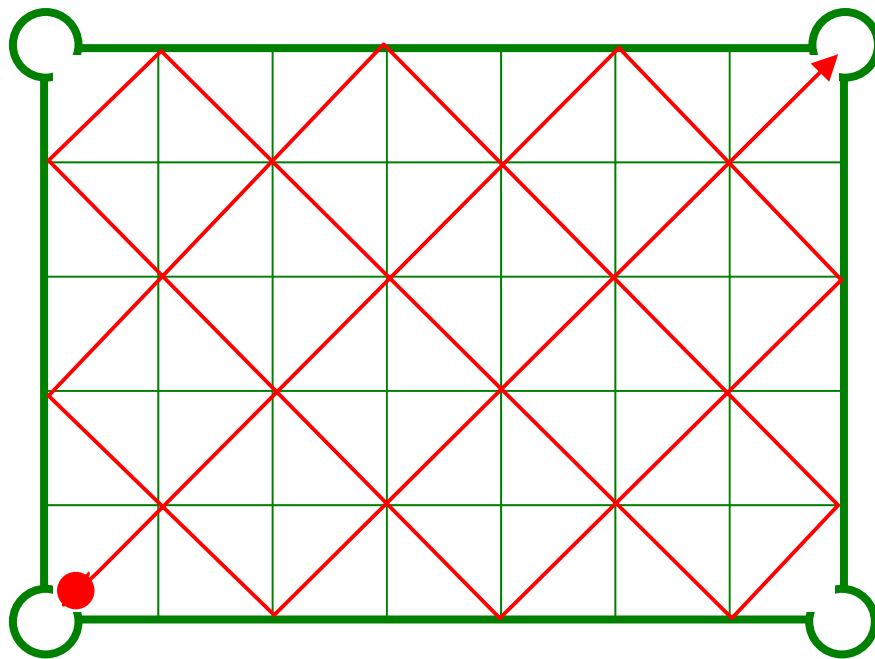




INVESTIGATION



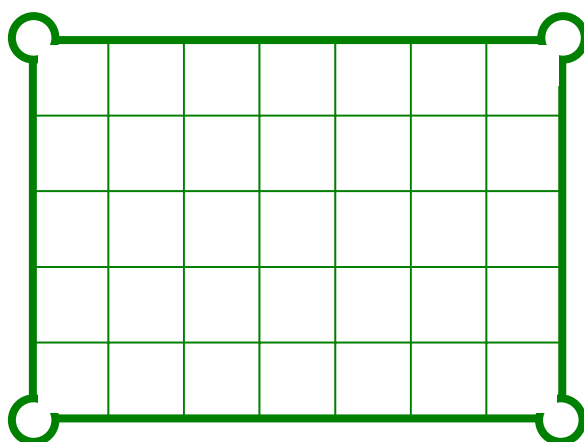
A Snooker Table



MathSphere

A Snooker Table

Here is a very mathematical snooker table:

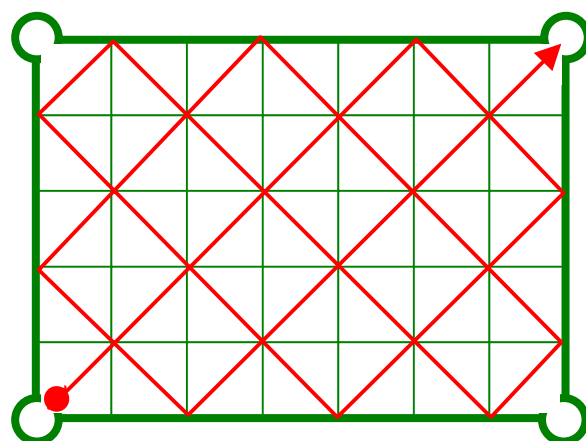


Why is it very mathematical?

It's very mathematical because the balls always travel across the table at 45° and they don't stop until they go into a pocket.

There are four pockets - one at each corner.

The balls are hit from the corners. Here is the path of a ball on this table.



Notice the table is 7 squares long and 5 squares wide. What happens when the table is made to different sizes. You could start with 8 squares long and 4 squares wide.

Can you find any rules and patterns?

Answer Guide

This investigation has a lot to do with factors. In an 8×4 table, for example, the ball will hit the middle of one long edge and then go straight into a pocket. If the table is 9×3 , there will be two bounces and the ball will go into a pocket.

The ball will behave in the same way if the table dimensions are a direct multiple of a simple table like the ones above.

Eg. Tables of size 18×6 , 27×9 and 36×12 will all behave in the same way as a 9×3 table.

But what happens if one side is not a multiple of the other, as in 7×5 and 9×4 ?