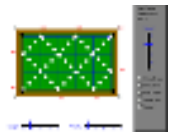


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Analyzing Numeric and Geometric Patterns of Paper Pool Part Four - Go the Distance

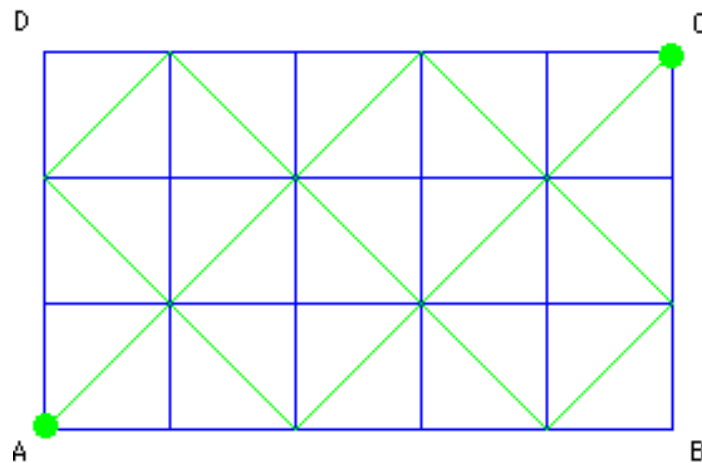
There are other questions that you can explore for the Paper Pool game. Here are two more questions for possible investigation.

Examine the path of the ball for several pool tables using the Paper Pool table software or by hand using grids of your own.



1. Can you predict the length of the path the ball will travel on any size Paper Pool Table? Each time the ball crosses a square, the distance it travels is 1 diagonal unit. How many diagonal units will the ball's path cover?

5 x 3 Paper Pool Table



Path Length = 15 diagonal units

2. What kind of symmetry does the path of the ball have for different pool tables?


For what dimensions of pool tables, does the path have a vertical line of reflection?

For what dimensions of pool tables, does the path have a horizontal line of reflection?

For what dimensions of pool tables, does the path have a rotational symmetry?

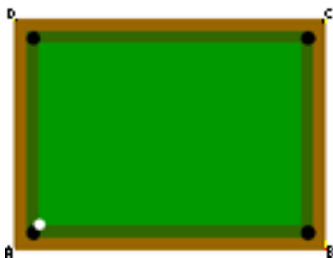
Write a Report

Thoughts
for
Teachers

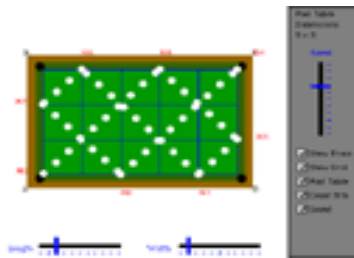


When you have explored several sizes of Paper Pool tables and have reached some conclusions, write a report on your work. Include the following in your report:

1. A summary of the rules you found, why you think your rules are correct, and anything else you discovered. You might discuss what you noticed as you examined the paths for different tables and what helped you to arrive at your rules.
2. A drawing of one Paper Pool table for each rule that demonstrates that the rule accurately predicts what will happen.
3. Any tables, charts, drawings or other tools you used to organize your information and look for patterns.
4. An explanation of any other patterns you found or ideas you have about Paper Pool tables and the path of the ball.



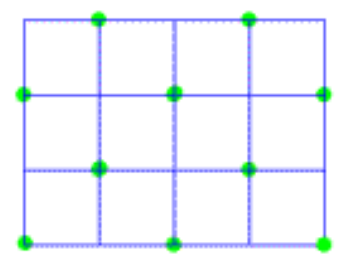
[Paper Pool Game](#)



[Explore More Tables](#)

| Data | | | |
|------|-----------|-----------|--------|
| | A | B | C |
| 1 | Dimension | # of Hits | Corner |
| 2 | 6 x 4 | 5 | D |
| 3 | 4 x 4 | 2 | C |
| 4 | 4 x 2 | 3 | B |
| 5 | | | |

[Look for Patterns](#)



[Go the Distance](#)

[Back to the beginning of this i-Math Investigation](#)

[References](#)



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