

51 BILLIARD REFLECTIONS



- centimetre grid paper
- protractor

When a billiard ball hits the side of a billiard table, it bounces off at the same angle at which it hit it.

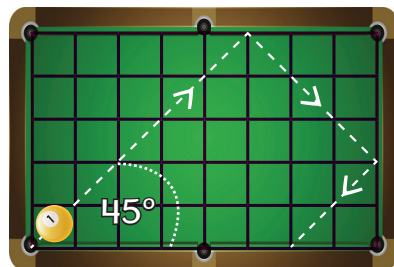
Example



If the ball hits at 45° it bounces off at 45° .
The diagonal of a square bisects the angle at 45° .

We can use grid paper to simulate a billiard ball hitting at 45° .

- 1 On this table, if the ball is hit from the corner at 45° , it eventually enters into a pocket.
- 2 If the size of the table (grid) changes does the ball always or only sometimes sink?
If it does sink how many bounces does it make first?
You could use a table like this one to record your results.
- 3 Is there any way to predict the number of bounces?
Is there any way to predict where the ball will sink?
- 4 What if you hit the ball at 45° from a place other than the corner?



Size of Table	Number of Balls
3 x 4	
5 x 4	
6 x 4	
7 x 4	
8 x 4	
3 x 5	
4 x 5	
6 x 5	

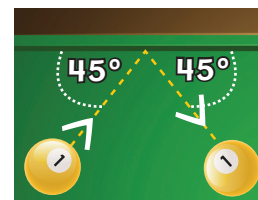
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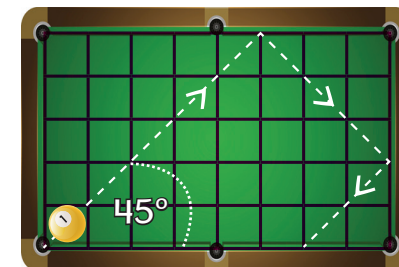
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