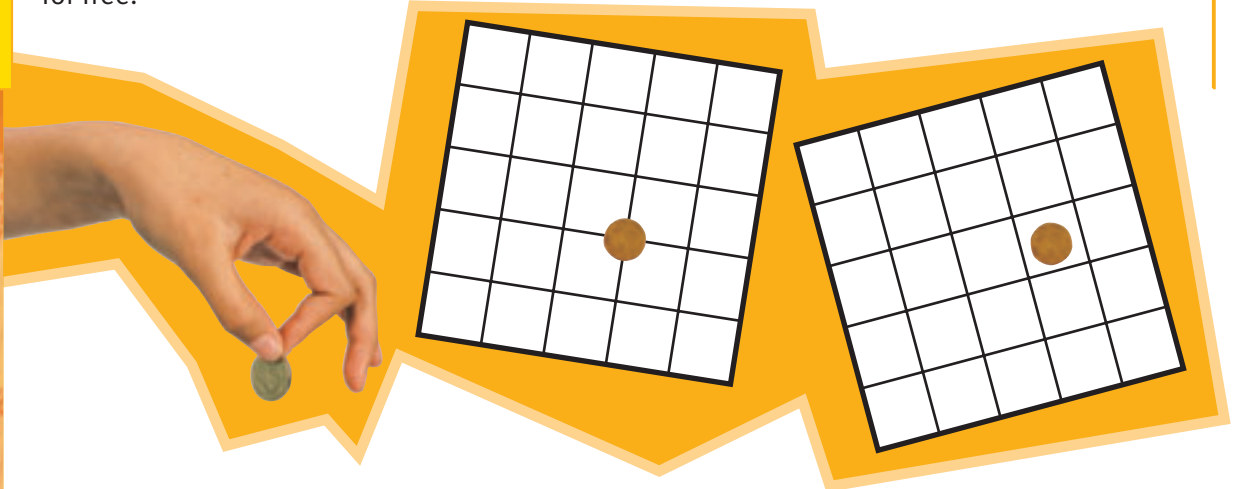# Unlucky Lines

ACTIVITY

You need: coins or counters

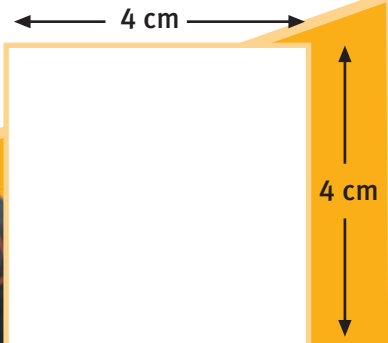It usually costs $1 to get into the MathsXcite centre. But with a bit of luck, you can get in for free!

You drop the $1 coin onto a square grid.

If the coin touches any line on the grid, you lose it.

If the coin lands in a space without touching a line, you keep it. Entry is free!

1. The first grid the organisers used had squares of this size:

4 cm

4 cm

  a. Draw up a grid with 25 squares, each 4 centimetres by 4 centimetres.
     Drop a $1 coin onto the grid 50 or more times.
     Record each outcome on a chart under the headings Win and Lose.

  b. What fraction of the attempts are successful?

  c. Explain why you think you got this result.

2. The staff at MathsXcite are finding that very few people get in for free using 4 centimetre by 4 centimetre squares.
   How big should they make the squares so that about half of the people get in for free?