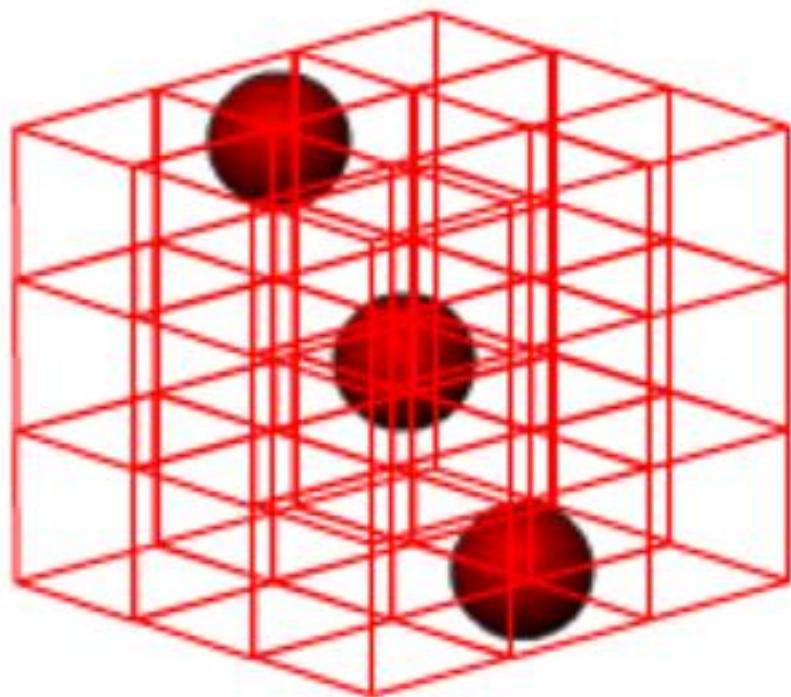


Marbles in a Box



Thousands more problems can be found on
the NRICH Maths website:

<http://nrich.maths.org>

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Imagine a three dimensional version
of noughts and crosses where two
players take it in turn to place
different coloured marbles into a box.

The box is made from 27
transparent unit cubes arranged
in a 3-by-3-by-3 array.

The object of the game is to
complete as many winning lines
of three marbles as possible.

How many different ways can
you make a winning line?