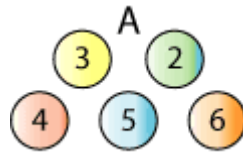Here is a set of numbered balls used for a game:

To play the game, the balls are mixed up and two balls are randomly picked out together.
For example:
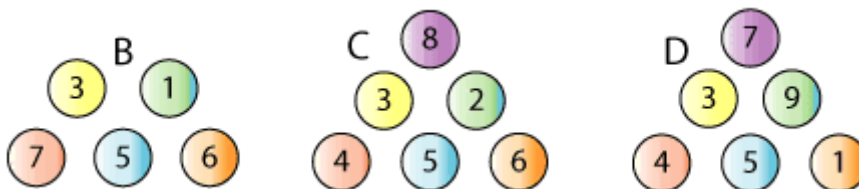

The numbers on the balls are added together: 4 + 5 = 9

If the total is even, you win. If the total is odd, you lose.

How can you decide whether the game is fair?

Here are three more sets of balls:

Which set would you choose to play with, to maximise your chances of winning?

What proportion of the time would you expect to win each game?

How many odd and even balls would you need in order to make the game fair?

Can you find more than one possible set?