

In the problem [Odds and Evens](https://nrich.maths.org/4308) (<https://nrich.maths.org/4308>), we introduced the following game and invited you to work out whether the game was fair:

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.

The numbers on the balls are added together.
If the total is even, you win. If the total is odd, you lose.

Can you find a set of balls where the chance of getting an even total is the same as the chance of getting an odd total?

How many sets of balls with this property can you find?

What do you notice about the number of odd and even balls in your sets?