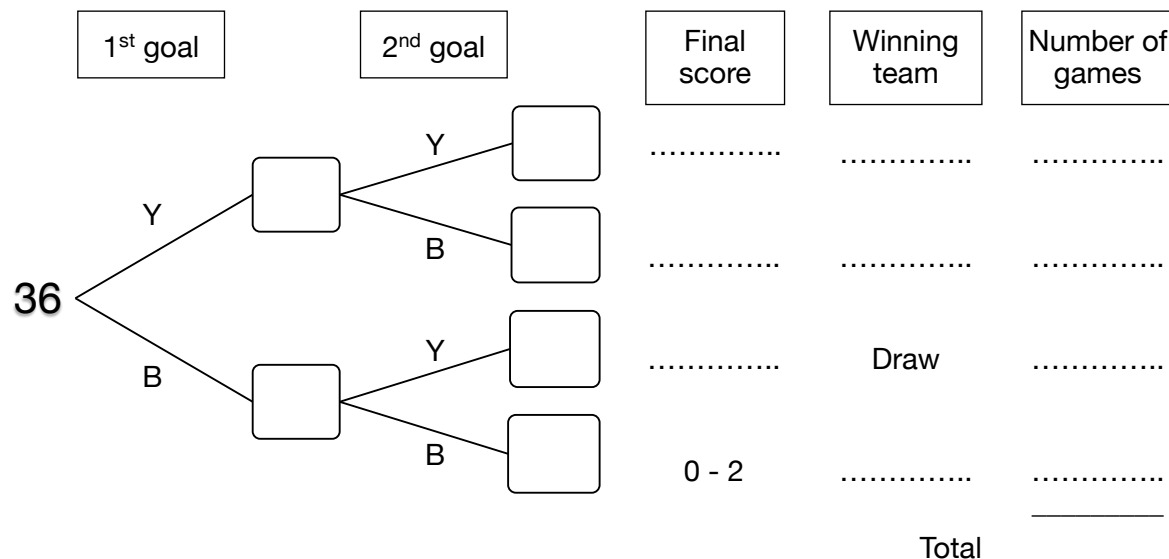# Which team will win?

What do we **EXPECT** to happen in 36 games of 2-goal football?

The game is modelled with a die which has four yellow sides (goals for Team Yeti) and two blue sides (goals for Team Beaver).

For a 36-game season:

- Calculate how many times each team would be **expected** to score the first goal - enter these into the two boxes on the 1st goal tree branches.

- Then calculate how many times we would **expect** each of these to occur: YY, YB, BY, BB - and enter them into the boxes on the 2nd goal branches.

- Complete the columns for the final score, the winning team, and the numbers of games we would **expect** for each set of branches.

- Check that the overall total number of games is 36.

Tree Diagram

Expressing all proportions first as a fraction of 36, and then simplifying where possible:

1. In what proportion of games do we expect Team Yeti to score first? ……………………

2. In what proportion of games do we expect TeamBeaver to score first? …………………

3. What proportion of games do we expect Y to win? …………………………………………

4. What proportion of games do we expect B to win? …………………………………………

5. In what proportion of games do we expect scoring to be YB? …………………………

6. In what proportion of games do we expect scoring to be BY? …………………………

7. What is the sum of your last **four** answers? …………………………………………………

http://nrich.maths.org/9546