

CALCULATING PROBABILITY

WHAT ARE MY TEAM'S CHANCES OF WINNING THE TOURNAMENT?



You are going to work out how likely it is for a team to progress all the way through the tournament and win the final. Complete the probability calculations to work out how likely you are to get all the way to the final. Choose a team to work out the probabilities for from the team list poster.

1. Work out the probability of winning a football match.

STAGE	PROBABILITY OF WINNING GAME		
	FRACTION	DECIMAL	PERCENTAGE
FINAL 16	—		

2. Now you need to work out the probability of winning the first round and the quarter finals.

QUARTER FINAL	— X — = —		
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3. Next work out the probability all the way to winning the final.

SEMI FINAL	— X — = —		
UEFA EURO 2020 FINAL	— X — = —		

4. You have now worked out the probability of winning the UEFA EURO 2020 cup. What are your thoughts on the chances of winning every game when you have a 50:50 chance? Are you surprised by the result? How do you feel about the difficulty?

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THE COIN TOSS

WHAT ARE MY TEAM'S CHANCES OF WINNING THE TOURNAMENT?

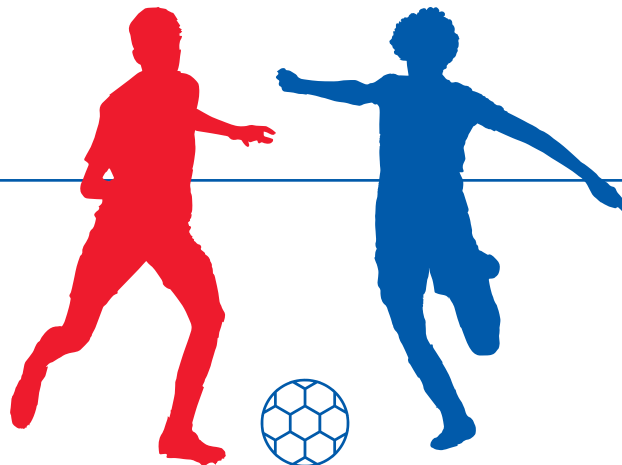


Your group is going to carry out coin tosses in the roles of home team, away team and referee. When you are the home and away team you need to pick either heads or tails. If you choose the correct side you win that round of the toss.

Record your results for the teams below.

HOME TEAM

Win or lose?



AWAY TEAM

Win or lose?

How many sides are there of a coin?

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What are the names of the sides?

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What was the probability of getting either side as a fraction, decimal and percentage?

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Challenge question: Why is this method seen as a fair way to decide?

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1. Work out the probability of winning a football match.

STAGE	PROBABILITY OF WINNING GAME		
	FRACTION	DECIMAL	PERCENTAGE
FINAL 16	$\frac{1}{2}$	0.5	50%

2. Now you need to work out the probability of winning the first round and the quarter finals.

QUARTER FINAL	$\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$	0.25	25%
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3. Next work out the probability all the way to winning the final.

SEMI FINAL	$\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$	0.125	12.5%
UEFA EURO 2020 FINAL	$\frac{1}{8} \times \frac{1}{2} = \frac{1}{16}$	0.0625	6.25%

4. You have now worked out the probability of winning the UEFA EURO 2020 cup. What are your thoughts on the chances of winning every game when you have a 50:50 chance? Are you surprised by the result? How do you feel about the difficulty?

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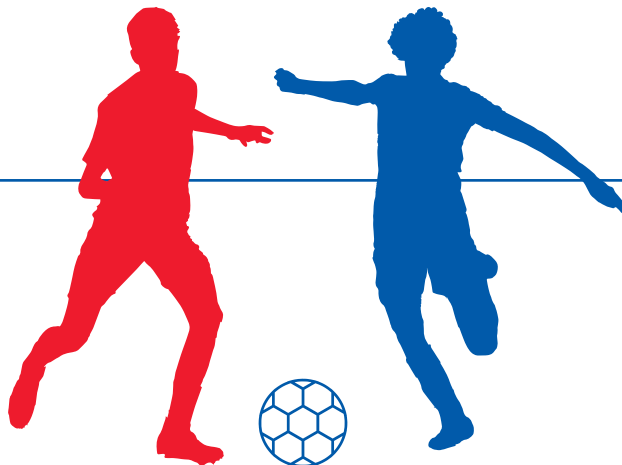


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Record your results for the teams below.

HOME TEAM

Win or lose?



AWAY TEAM

Win or lose?

How many sides are there of a coin?

2

What are the names of the sides?

Heads and tails

What was the probability of getting either side as a fraction, decimal and percentage?

$\frac{1}{2}$, 0.5, 50%

Challenge question: Why is this method seen as a fair way to decide?

Because you are as likely to win as to lose, so is not biased to an individual team.

