Maths and Sport: Arsenal Collection

Football Logic

Key Stage 3 and 4

Challenge level: ★★

These three problems require some logical thinking and a willingness to work systematically.

Can you deduce the missing information in each case below?
Perhaps you can develop techniques in one brainteaser that will help you to solve another.

1. Football Champ

Three teams, Arsenal, Manchester City and Chelsea, have each played two matches.

Three points are given for a win and one point to each team for a draw.

The table below gives the total number of points and goals scored for and against each team.

Fill in the table and find the scores in each match.

Teams	Games Played	Won	Drawn	Lost	Goals For	Goals Against	Points
Arsenal	2				5	3	3
Man City	2				2		1
Chelsea	2				3	2	4

2. Friendly Tournament

The youth academy Under-18s competed in a friendly round-robin tournament involving six teams: Arsenal U18, Bolton U18, Chelsea U18, Tottenham U18, Everton U18 and Fulham U18. Each team had to play against every other team. All the matches resulted in either a win or a loss - there were no draws.

- No team lost all their matches, but one team won all their matches.
- Tottenham won their match against Bolton.
- Arsenal and Everton won the same, odd, number of matches, but Arsenal lost to Everton.
- Bolton and Fulham won a total of seven matches
- Chelsea won only one match, against the only other team who also won only one match.

Can you deduce what all of the results were?

3. Qualifying Round

In the qualifying round of the UEFA Under-19 Football Championship, a group of four teams were to play each other once. 2 points were awarded for a win, and 1 point for a draw.

After some of the matches were played, most of the information in the results table was accidentally deleted.

Teams	Played	Won	Drawn	Lost	Goals For	Goals Against	Points
A					4	4	
B					5		5
C		0				4	2
D					0	3	0

Can you work out the score in each match played?