

We start with the table

Team	Played	Won	Lost	Drawn	For	Against
A			1	0	1	2
B			1		0	5
C	2		1		7	4
D		1		0	2	2
E		2		0	5	2

May use abbreviations for the cells throughout the answer. Will do in the format team letter with first letter of column as subscript e.g.  $A_p$  to stand for team A games Played,  $D_w$  stands for team D games Won etc.

Team C has scored more points for than against. Therefore, C must have won at least 1 game. However, looking at  $C_p$  we can see that team C has only played 2 games. Therefore, team C must have won 1 game and have 0 Draws.

$$C_w = 1, C_d = 0$$

Team B could not have possible won a game with 0 points for. As no other team has drawn there is no team that team B could have drawn with and therefore team B must have 0 draws. As  $B_L$  is 1 that means B has played 1 game

$$B_p = 1, B_w = 0, B_d = 0$$

Red indicated filled in cells

Team	Played	Won	Lost	Drawn	For	Against
A			1	0	1	2
B	1	0	1	0	0	5
C	2	1	1	0	7	4
D		1		0	2	2
E		2		0	5	2

Team B played 1 game where they had 5 points against. The only teams that scored 5 or more points for are team C and team E. However, Team E could have not scored 5 points for in one game as they won 2 games with a combined 5 points for. Therefore, the only team that could have played against them in this game is team C. therefore we know that team B must have played team C with a score of 0 to 5.

- Game 1: B vs C, Score: 0 to 5 (number has no meaning, it is just an arbitrary label)

Subtracting this score from  $C_f$  and  $C_A$  we can see that in team C's other game it scored 2 for, 4 against. The only other team that could have scored 4 points for would be team E. Therefore, team C must have played team E with a score of 2 to 4.

- Game 2: C vs E, Score: 2 to 4

Subtracting this score from  $E_f$  and  $E_A$  there is 1 point for and 0 points against scored by team E. Therefore, it did not lose any other games.

- $E_p = 2, E_L = 0$

At this point we end up with the table

Team	Played	Won	Lost	Drawn	For	Against
A			1	0	1	2
B	1	0	1	0	0	5
C	2	1	1	0	7	4
D		1		0	2	2
E	2	2	0	0	5	2

With games:

- Game 1: B vs C, Score: 0 to 5
- Game 2: C vs E, Score: 2 to 4

This accounts for both of team C's games and team B's games and one of team E's game.

As team A has only scored 1 point for it could have won a maximum of 1 game. Therefore it could have won 1 game or 0 games with total games played being 2 or 1 respectively.

If team A won 1 game:

- $A_p = 2, A_w = 1$

Summing up the Won column and the Lost column we know they must equal each other. Therefore, the only row without Lost filled, team D must have 2 loses and 3 games played

- $D_p = 3, D_L = 2$

However, this leads to a contradiction as we know that in a round-robin each team is supposed to play each other team at most once but team B's and team C's games are all already accounted for so there is no way that team D could play 3 games with the leftover teams A and E without playing one team twice.

Therefore, Team A could have not won 1 game.

If team A won 0 games:

- $A_p = 1, A_w = 0$

Summing up the Won column and the Lost column we know they must equal each other. Therefore, the only row without Lost filled, team D must have 1 lost and 2 games played

- $D_p = 2, D_L = 1$

In this case team A only played 1 game so all of its 1 for 2 against point must be from the one game. As there is 1 point for and 0 points against scored by team E in its left-over game, team A could not have played E and therefore must have played the only other team with games unaccounted for which is team D with a score of 1 to 2.

- Game 3: A vs D, Score: 1 to 2

This leaves team E with 1 winning game unaccounted for with 1 point for and 0 against and team D with 1 losing game unaccounted for with 1 point against and 0 points for. Therefore, the last game is

- Game 4: D vs E, Score: 0 to 1

Team	Played	Won	Lost	Drawn	For	Against
A	1	0	1	0	1	2
B	1	0	1	0	0	5
C	2	1	1	0	7	4
D	2	1	1	0	2	2
E	2	2	0	0	5	2

With games:

- Game 1: B vs C, Score: 0 to 5
- Game 2: C vs E, Score: 2 to 4
- Game 3: A vs D, Score: 1 to 2
- Game 4: D vs E, Score: 0 to 1

Checking this is a valid solution we can see the sum of games played column is even and is double the number of games (as each game is 1 game played for both teams), sum of the games won and games lost column are equal and all points are accounted for by the games played.