



Problem of the Week

Problem B and Solution

Batter Up!

Problem

Use the following clues to fill in the table provided in the problem. Use the information to determine who won this classic 2016 World Series game between the Cleveland and Chicago baseball teams. HINT: For an easy start, put in any known scores.

1. Chicago scored one run in the first inning, but did not score again until the 4th inning.
2. Cleveland tied it up in the third inning.
3. Chicago scored the same number of runs in the 4th, 5th, and 10th innings.
4. Neither team scored in the 7th inning or 9th inning.
5. Both teams scored 2 runs in the 5th inning.
6. Chicago scored one run fewer in the 6th inning than they did in the 5th inning, and did not score again until the 10th inning.
7. Cleveland scored in only 4 innings, and tied it up again in the 8th inning.
8. Cleveland batted in the 10th inning and scored one run.

Solution

Using the first two clues, we can fill the chart to the following point.

Inning	1	2	3	4	5	6	7	8	9	10	Final
Chicago	1	0	0								
Cleveland	0	0	1								

Using the third and fourth clues, we can fill more information in the chart. We will use a ■ to show that Chicago scored the same number of runs in each of innings 4, 5, and 10.

Inning	1	2	3	4	5	6	7	8	9	10	Final
Chicago	1	0	0	■	■		0		0	■	
Cleveland	0	0	1				0		0		





Using the fifth clue, we can put a 2 in for both teams in inning number 5. But Chicago scored the same number of runs in innings 4, 5 and 10 so we can replace ■ with a 2 in the three spots.

Inning	1	2	3	4	5	6	7	8	9	10	Final
Chicago	1	0	0	2	2		0		0	2	
Cleveland	0	0	1		2		0		0		

Using the sixth clue, we can put a 1 in for Chicago in inning number 6. We can fill in zeros for Chicago in inning 8 and since we have all the information for Chicago, we can fill in Chicago's final score with an 8.

Inning	1	2	3	4	5	6	7	8	9	10	Final
Chicago	1	0	0	2	2	1	0	0	0	2	8
Cleveland	0	0	1		2		0		0		

Using the eighth clue, we know that Cleveland scored 1 run in the tenth inning.

Inning	1	2	3	4	5	6	7	8	9	10	Final
Chicago	1	0	0	2	2	1	0	0	0	2	8
Cleveland	0	0	1		2		0		0	1	

Finally, using the seventh clue, we know that Cleveland tied the game in the eighth inning and only scored in four innings altogether. So Cleveland must have scored 3 runs in their half of the eighth inning and no runs in the fourth and sixth innings. Cleveland's final score can now be filled in with a 7.

Inning	1	2	3	4	5	6	7	8	9	10	Final
Chicago	1	0	0	2	2	1	0	0	0	2	8
Cleveland	0	0	1	0	2	0	0	3	0	1	7

Based on the clues provided, we have determined that the Chicago team won the game by the score 8 to 7 over the Cleveland team in this 2016 World Series game.

