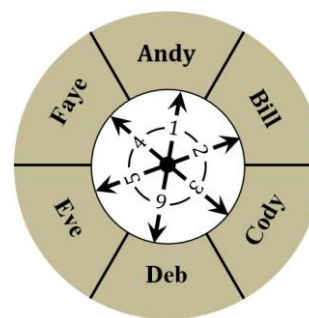


February 2016 Puzzle

A circular table is divided into 6 equal sections, each of which is assigned to the 6 individuals: Andy, Bill, Cody, Deb, Eve, and Faye. In the center of the table is a circular spinner containing the equally spaced numbers 1 – 6. A game is played where the spinner is spun 5 times and each time the players receive the score of the number whose arrow points to their section of the table. At the end of the 5 spins, the player with the highest total score is the winner. If there is a tie for the high score, there is no winner and the entire game is replayed. If the arrows land on the lines separating the sections, the spinner is re-spun.



The first game begins with the spinner landing as shown in the figure above. At this point, Deb is in the lead with 6 points. After the second spin, Eve takes the lead and in the end, Bill is the winner. Use this information to determine the final score of each player.

February 2016 Solution

The final scores are:

Andy – 17 Bill – 20 Cody – 19 Deb – 18 Eve – 15 Faye – 16

After spin 1, Eve is one point behind Deb who is sitting adjacent to the right of her. With the exception of 4 & 1 and 6 & 3, each pair of adjacent numbers on the spinner differ by 1. For Eve and Deb to obtain the 4 & 1, it can only happen if Deb gets the 4 and Eve gets the 1. Thus in order for Eve to take the lead after the second spin, she must spin a 6, which gives Deb a 3.

Therefore, after spin 2, the total scores are:

Andy – 5 Bill – 3 Cody – 5 Deb – 9 Eve – 11 Faye – 9

Now observe that the numbers on the spinner are arranged so that sum of each number on the spinner and the one directly across from it is always 7. Therefore, with each spin, the total score of the player pairs: (Andy, Deb), (Bill, Eve), and (Cody, Fay) will always go up by 7 and each player pair will finish with a combined total of 35 points. Therefore, each player pair must have one of the players finishing with 18 or more total points. So for Bill to win, he will need to score 16, 17, or 18 points in his last three spins.

To score 16 points in his last three spins, he would have to spin a 6, 6, and 4, or a 6, 5, and 5 (the order doesn't matter). If he spun a 6, 6, and 4, then Bill, Deb, and Faye would all tie with 19 points. If he spun a 6, 5, and 5, then Andy would win with 20 points.

To score 18 points in his last three spins, he would have to spin a 6, 6, and 6. However, that would result in him tying Deb with 21 points.

To score 17 points in his last three spins, he would have to spin a 6, 6, and 5. This results in the final scores given at the beginning of the solution and is the only possible outcome with Bill as the winner.