

1116-Q1-304

Bruce Torrence* (btorrenc@rmc.edu), Dept. of Mathematics, P.O. Box 5005, Ashland, VA 23005. *Fibonacci over Lucas; Lucas over Five Fibonacci - Winning Probabilities in a Game of Chance.*

Imagine that you are one of n people seated at a round table playing a game. A hundred dollar bill is placed in front of you, and the bill takes a random walk: With probability $1/3$ it moves one place to the left; with probability $1/3$ it moves one place to the right; and with probability $1/3$ the game ends and the bill is given to the player seated at its current position. The bill starts in front of you, and keeps moving one player to the left or right until at some stage the game ends. What is the probability that you are the winner? Surprisingly, it will be shown that each player's likelihood of winning is a ratio involving a Fibonacci number and a Lucas number. (Received August 24, 2015)