

UofSC Mathematics' Problem of the Month

October 2021

Fibonacho Numbers

Two children eat nachos in turns, taking the next number in the Fibonacci sequence: 1, 1, 2, 3, 5, 8, 12, 21, \dots , restarting from the beginning if the next number is greater than the remaining nachos. What is the smallest number of nachos less than 500 that requires the most restarts?

- **First place will get \$15 and second place will get \$10.** Correct solutions for each problem will also be acknowledged in the weekly Mathematics Newsletter.
- Solutions will be judged primarily on correctness, clarity of work, and speed of submission. The highest ranking students will receive the prizes for that month.
- Submit your solutions to Dr. Dunn at dunnsm@math.sc.edu before October 31st at 11:59 pm.
- Answers should be given in the form of mathematical proofs unless otherwise stated.
- Type or write your solution clearly and show all of your work. This should be your solution, and not a solution posted online or copied from another source.
- You must be an undergraduate enrolled in coursework at USC.