

NOVEMBER/DECEMBER SOLUTIONS

PROBLEM

Consider the number 12355699. If we write each of the digits in this number on separate slips of paper, put them in a bowl, and draw three of the numbers at random, without replacement, what is the probability that the sum of the numbers drawn will be even?

SOLUTION

There are $C(8, 3) = 56$ ways to pick three of the numbers at random. There are only 2 even numbers, so for the sum of three numbers to be even, we must pick 2 odd numbers and 1 even number, which can be done $C(6, 2)C(2, 1) = 30$ ways. Thus the probability is $\frac{30}{56} = \frac{15}{28}$.

CORRECT SOLUTIONS

- Jim Manning
- Andrew Mamroth
- Dylan Kane
- Jonathan DeGange
- Oliver Gothe
- Kevin Ludwick
- Jeffrey Arredondo
- Emily Mitchell