



# Lewis & Clark College

## Department of Mathematical Sciences

### Problem of the Week #2

(Spring 2018)

For all positive integers  $n$ , prove that

$$\sum_{k=1}^n \frac{k \cdot k! \cdot \binom{n}{k}}{n^k} = n.$$

- Solvers should include their name, address, and status at the College. Solutions can be mailed to MSC 110 via campus mail or placed in Yung-Pin Chen's mailbox in the Math Department Office. Solutions to the above *Problem of the Week* should be received by 5:00 p.m. Monday, February 5, 2018.
- Sean Richardson (so.) solved *Problem of the Week* #1. Congratulations to him.