

**University of Colorado**  
**Department of Mathematics**  
**Problem of the Month**  
**April 2018**

Let  $m$  and  $n$  be positive integers such that  $m < n$  and  $\gcd(m, n) = 1$ . If  $m$  integers are randomly selected — without replacement — from the set  $\{1, \dots, n\}$ , what is the probability that their sum is divisible by  $n$ ?