

The Department of Mathematics
Presents
The Problem of the Month
April 2017

*You could win a Starbucks gift card by
solving the problem below!*

Ten slips of paper bearing the numbers 0, 1, 2, 3, . . . , 9 are put into a hat. Five slips are drawn at random and laid out in a row in the order in which they were drawn. What is the probability that the five digit number thus formed is divisible by 90? Provide a mathematical justification of your answer (not a computer program).

*The Fine Print: Participation in the Problem of the Month is restricted to current Southeast undergraduates only. Any undergraduate may submit a solution for a chance to win! To submit a solution, write your complete solution on a piece of paper and submit it to Dr. Daly in the Department of Mathematics, Johnson Hall 201. **Please include your name, Southeast email address and SO number. Solutions without that information will not be considered.** The first three correct solutions received will win a Starbucks gift card. Solutions are due at noon on April 28, 2017. Happy solving!*

One last note: Faculty, we know you're intrigued by problems of this sort, but please don't spoil the fun for the undergrads by helping solve this problem. The fun of problem solving is solving problems for yourself!