

PROBLEM OF THE MONTH #2

NOVEMBER 2018

Directions: Write a complete solution to the problem below showing all work. Your paper must have your name, W#, and Southeastern email address. Solutions are to be placed in the envelope for Problem #2 located in the Department of Mathematics Office, Fayard 308 by 4:30 p.m., **Thursday, November 29**. No late papers will be accepted.

All papers with a correct solution will be entered in a drawing for a great prize!

Questions concerning the problem of the month should be sent to either Dr. Tilak de Alwis (tdealwis@selu.edu), or Dr. Dennis Merino (dmerino@selu.edu)

Problem: *Tactical Tangents*

Find an equation of a tangent line to the graph of $f(x) = \sin(x)$ which passes through the point $(\sqrt{3} - 2, -\frac{\pi(\sqrt{6} + \sqrt{2})}{48})$. Provide the exact answer in the slope-intercept form.

PS: You may use a calculator and/or a computer to analyze and experiment with the problem. However, the final work and justification must be done completely by hand.