PROBLEM OF THE MONTH #2

SEPTEMBER 2016

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, September 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. Randy Wills (rwills@selu.edu)

Problem:

Through the point $P(2, -1)$, two tangent lines are drawn to the curve $x^2 + xy + y^2 = y$ touching it at the points Q and R. Find the coordinates of the center of gravity and the area of the triangular region PQR. Provide the exact answers.