PROBLEM OF THE MONTH #1

SPETEMBER 2013

Open to all students whose mathematics classes come solely from the following list: Math 92, Math 155, Math 161, Math 162, Math 163, Math 165, Math 167, Math 168, Math 185, Math 241, or Math 267 or their equivalent.

<u>Directions:</u> 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 #1 located in the Department of Mathematics Office, Fayard 308 by 4:30 p.m., **Monday, September 30**. 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 : *Just Like Clock Work!*

Consider a standard clock with hour, minute, and second hands.

(a) At what times between 4:00 and 5:00 is the angle between the hour and minute hands $90°$?

(b) There is a time between 3:00 and 4:00 in which the hour and minute hands point in exactly the same direction. At this time find the angle that the second hand makes with the hour/minute hands.