Homework 9 - Math 142, Frank Thorne (thorne@math.sc.edu)

Due Wednesday, November 11

Important: Please show your work, write in complete sentences, draw pictures when appropriate, and explain your reasoning clearly.

(a) What is a parametric curve? Give an example.

(b) What is the formula for the arc length of a parametric curve? Why is it true?

(c) Do problems 1-8 in the Section 8.6 exercises here:

$$\texttt{http://www.opentextbookstore.com/precalc/2/Precalc8-6.pdf}$$

Give reasons for your answers.

(d) Thomas, Chapter 11.1, 1, 5, 7, 12.

(e) Thomas, Chapter 11.2, 2-6 (skip finding d^2y/dx^2, but do sketch the curve and the tangent line), 22, 23, 25, 26.