

**Homework 8 - Math 142, Frank Thorne (thornef@mailbox.sc.edu)**

**Due Tuesday, October 22**

- (a) What are polar coordinates?
- (b) 10.3, 1-12, 29-40, 56.
- (c) What is the formula for the area of a region defined by polar coordinates? Why is it true? Draw a picture, explain, and give an example.
- (d) What is the formula for the slope of the tangent line to a curve defined by polar coordinates?
- (e) 10.3, 57-60.
- (f) 10.4, 5-12.

Additional problems:

1. 10.3, 41-48; 10.4, 13-14, 17-20.

Bonus: Look through the exercises at all the ridiculous Greek or Greek-sounding names for the various parametric curves. Find out, beyond the extent described in your book, how at least two of them got their name.