Math 32, Spring 2010, Section 101
Worksheet 5

Work through the following problems in groups of about four. Take turns writing; everyone should get a chance to write for some of the problems. It's more important to understand the problems than to do all of them.

1. Sketch a graph of the curve $y = x^2 - 4x + 5$. Be sure to label the vertex, the y-intercept and any x-intercept(s).

2. A 10in piece of wire is cut into two pieces of length x and y. These pieces of wire are bent into squares. Express the combined total area of the squares as a function of x.

3. Find the point of on the curve $y = \sqrt{x}$ that is nearest to the point $(3, 0)$. What is this minimum distance?

4. Graph the function $y = x^2(x-1)(x-3)^2$ by (a) finding the x- and y-intercepts, (b) marking the excluded regions, and (c) drawing a curve that fits this data.