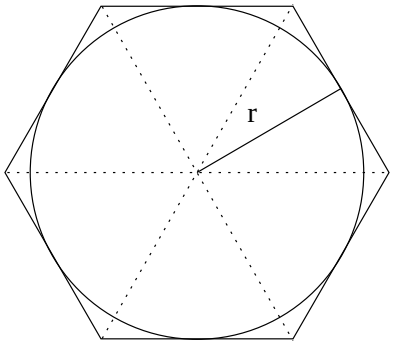
Worksheet 6 for MA 113 - Calculus I (Spring 08)

3/25/08

Work the following problems related to optimization.
As always, write up your solutions neatly, carefully, and in complete sentences.

1. Let u and v be two non-negative numbers, whose sum is 6. Find the maximum value of u^2v. Determine u and v when the maximum is attained.

2. Suppose a circle of radius r is inscribed in a regular hexagon as pictured. Find the area of the hexagon. (This formula for the area of a hexagon will be needed in the next problem.)



3. Answer parts 1–2 of the project in Stewart, pages 288–89. It will be helpful to read Example 2 on page 279–280 before beginning the project.

Due date: April 2, 2008, at the beginning of the lecture