Homework # 7 (Due May 15-Thursday, 2008)

1. Solve the problem by the dual method.

$$\text{Min} \quad f(x, y) = -xy$$

$$\text{Subject to} \quad h(x, y) = (x-3)^2 + y^2 - 5 = 0$$

2. Find the solution to the problem by the primal formulation and the dual formulation.

$$\text{Minimize} \quad f(\mathbf{x}) = x_1^2 + x_2^2 - 4x_1 - 6x_2$$

$$\text{Subject to} \quad g_1(\mathbf{x}) = x_1 + x_2 - 2 \le 0$$

$$g_2(\mathbf{x}) = 2x_1 + 3x_2 - 12 \le 0$$

Remark: The due date for the first report on the Gyrocopter Project will be delayed to May, 22 (because many students have midterms next week).