Math 354 Summer 2004 **Name:** _____

Quiz #2

Please show your work and feel free to use the back of the sheet if you need more room.

Problems 2, 3, and 4 concern the following linear programming problem:

$$\begin{array}{l}\text{Maximize } z = \frac{1}{2}x + \frac{3}{2}y \\ \text{subject to} \\ \begin{array}{rcrcl} x & + & 3y & \leq & 6, \\ x & + & y & \geq & 4, \end{array} \\ x \geq 0,\ y \geq 0\end{array}$$

1 What is an extreme point?

2 Sketch the set of feasible solutions to the linear programming problem above.

3 What are the extreme points of the set of feasible solutions to this problem?

4 Find the optimal solution(s).