1. Be able to formulate a linear programming word problem mathematically:
   a) List the production variables and their units. Identify the resources.
   b) Write the profit function in terms of the production variables.
   c) Write the constraints of the problem as linear inequalities, using a chart if necessary.
   d) List the implied non-negativity constraints for the problem.

2. Given a mathematical formulation of a linear programming problem involving two production variables, be able to
   a) graph each constraint inequality in a coordinate plane,
   b) shade the feasible region,
   c) identify the corners of the feasible region visually,
   d) use algebra to find the coordinates of those corners as the intersections of constraint lines,
   e) determine by a substitution process whether a point with given coordinates is contained in the feasible region.

3. Be able to explain the Corner Point Principle, and be able to use it to determine the maximum profit when there are only two products.

4. Given a problem that has been formulated mathematically as a system of linear inequalities and a profit function, be able to define slack variables and use them to rewrite the constraints, rewrite the profit function, and obtain the initial simplex matrix as in Section 3.3.

5. Given a final simplex matrix, be able to determine which are the basic and which are the nonbasic variables, determine the solution associated with that final matrix (including values of slack variables), and interpret these values in the original word problem, as in Section 3.3.

Section 3.4, pages 211 – 213, has an Overview of Chapter 3 and review problems for Test 3. In Lecture Thursday we will go over these review problems.