

Due: Friday, January 20th (drop box, 3 p.m.)

Reading

If you haven't already, please read the Preface.

For Tuesday, January 10th, Chapter 1.

For Friday, January 13th, to Chapter 2, Section 3.

For Tuesday, January 17th, to the end of Chapter 2.

For Friday, January 20th, Chapter 3, however for Sections 3.3 and 3.4 it is enough just to know the results rather than going into the proofs.

Assignment exercises to hand in

The Interflux company has a factory that produces widgets and gizmos. Production requires the use of two crucial machines: the combiner and the processor. The combiner takes 4 minutes for each widget, and 6 for each gizmo, while the processor takes 2 minutes per widget and 1 per gizmo. The combiner is available for 10 hours a day, 6 days a week, while the processor, which is mainly dedicated to producing zipper teeth, is only available on Mondays and Tuesday, also for 10 hours a day. If there is a net profit of 6 cents per gizmo and 11 cents per widget, formulate a linear program to maximize the weekly profit from production of these two items. You are not required to solve the program.

Chapter 1, problem 2.

Chapter 2, problems 1, 8, 9 and 16.

Note that you can use the on-line pivot tools from Vanderbei's homepage to check your calculations.

Some other exercises you should try

Chapter 1, problem 1.

Those of you who have taken Math 208W will have some experience with problem formulation. To practice problem formulation you are encouraged to try some examples from other sources, such as the course reserve textbooks in the library. Many are also available on the Web, such as the following solved problems authored by J.E. Beasley: <http://people.brunel.ac.uk/~mastjjb/jeb/or/lpmore.html>.

Try as many of the simplex problems (2.1 through 2.11) as you need to get comfortable with the method. You can generate more using the on-line tool mentioned in Problem 2.12. It is also worthwhile to think about Problems 2.17 and 2.18.