## MATH 326: Homework 7 SPRING 2013

- 1. A pet day spa specializes in pampering cats and dogs. Each cat brings in \$40 in revenue, while each dog brings in \$60 in revenue. Dogs and cats both require 1 hour to bathe and there are enough employees to handle 20 hours of bathing each day. Cats receive  $\frac{1}{2}$  an hour of combing and trimming after bathing while dogs require 1 hour of combing and trimming after their bath. There are enough employees to handle 15 hours of combing and trimming each day.
  - (a) Construct a linear programming problem whose solution will determine how many cats and dogs the day spa should service each day to maximize revenue.
  - (b) Convert the linear programming problem to standard form.
  - (c) Use the simplex algorithm to solve the problem.