## 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.
