# Math 1124: Homework 5
# Due: Monday, October 8th

**1)** A local menu offers choices from eight entrees, three varieties of potatoes, either salad or soup, and five beverages.

  (a) If you select an entree with potatoes, salad or soup, and beverage, how many different meals are possible?

  (b) How many meals have soup?

  (c) How many meals have French fries as the potato choice and cola as a beverage choice?

**2)** You come home on a dark night and find the porch light burned out. Since you cannot tell which key is which, you randomly try the six keys on your key chain until you find one that opens your apartment. Two of your keys open the door. Draw a tree diagram that describes all the possible ways you can try to get into the house using the keys. (Assume that once we try a key, and it doesnt work, we "set it aside" and dont try it again). How many different ways are possible? (Note: You need not draw the entire tree diagram as many paths will look similar to others. You must convey in words the parts of your tree that are missing).