ECNS 204 – Microeoconomics
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Exam 1 Review Questions

1. Suppose you have 24 hours per day that you can allocate between leisure and working at a wage of $2 per hour.
   a. Draw a budget constraint between "leisure hours" on the horizontal axis and "income" on the vertical axis. Draw the indifference curve and optimal allocation point. *Hint: Keep in mind that the number of hours spent working is equal to 24 hours minus leisure hours.*
   b. Now suppose that the wage rate increases to $3 per hour.
      i. Draw your new budget constraint, indifference curve, and optimum point.
      ii. Decompose this increase in wage rate into a substitution and income effect.
      iii. Are you better off?
   c. Now suppose that you decide to sleep at night for 8 hours. Given you have 16 hours to work with now, draw your new budget constraint, indifference curve, and optimum point.
2. Assume gasoline currently sells for $3 in equilibrium.
   a. What happens to equilibrium price and quantity for gasoline when a new fleet of cars have more fuel efficiency? Plot this impact using supply and demand curves.
   b. Assume that the price of gasoline increases to $4 while the quantity falls by 5%. What is the own price elasticity? Is fuel elastic or inelastic? Does total revenue for the gas companies increase or decrease?
   c. If the quantity of fuel originally sold was 900, what was the quantity after the price increase?
   d. What is the anticipated impact that the price increase of fuel would have on the price for bicycles (assume bicycles and fuel usage are substitute goods)? What sign would you expect when computing the cross price elasticity between these goods?
3. Suppose that it takes you 2 hours to paint a picture and 8 hours to write a song. It takes your roommate 4 hours to paint a picture and 100 hours to write a song.
   a. Who has the absolute advantage at painting pictures?
   b. Who has the comparative advantage at painting pictures?
   c. Assume that you and your roommate each want a picture and a song.
      i. How many hours does it take for each of you to produce a picture and a song.
      ii. How many hours does it take if each of you produces only what you have a comparative advantage in doing? *(Note: You produce this good for both yourself and your roommate)*