ECNS 204 – Microeocnomics
Instructor: Eric J. Belasco
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Chapter 4 Review – Elasticity and Indifference Curves

1. When income increases from \$30 to \$45, the quantity demanded for good X increases from 6 to 8.
    a. What is the income elasticity?

    b. Does this imply that the demand for good X is elastic, inelastic, or unitary elastic?

    c. What does this mean?

2. When the price of good X increases from \$3 to \$4, the quantity demanded for good X decreases from 5 to 4 units.
    a. What is the price elasticity of demand for good X?

    b. Is this a Giffen good?

3. The price elasticity of demand for coffee is about -0.25. Suppose that when the price is \$0.50 per cup, consumers demand 1,000 cups per day. If the price rises to \$0.60 per cup, how many cups will be demanded?

4. In 2003, tolls were increased by 30% on seven bridges across the Delaware River, connecting Pennsylvania to New Jersey. In the first two months of the year, bridge traffic fell by 17%.
   a. What is the price elasticity of demand for using these bridges to cross the Delaware River?

   b. Is demand or elastic or inelastic? Explain why.

   c. Is more tax revenue collected from the toll increase?

5. Suppose you have $1,000 today and expect to receive another $1,000 one year from today. Your savings account pays an annual interest rate of 25%, and your bank is willing to lend you money at that same rate.
   a. Suppose that you save all of your money to spend next year. How much will you be able to spend next year? How much will you be able to spend today?

   b. Suppose you borrow $800 and spend $1,800 today. How much will you be able to spend next year?

c. Draw your budget constraint between "spending today" and "spending next year." What is the slope? How does the slope reflect the relative price of spending today in terms of spending next year?

d. How would your budget line shift in each of the following circumstances
   i. You find $400 (that you forgot about) in your desk drawer

   ii. You receive a $500 bonus next year

   iii. Under which circumstance (part i or ii), are you likely to spend more next year.

   iv. The interest rate rises to 50%

v. For an interest rate increase to 50%, show how your budget line shifts. Do you increase or decrease current spending? Do you increase or decrease future spending? Are you better off or worse off than before?

vi. In part v, decompose the change in your consumption into a substitution effect followed by an income effect.