ECO 401-001
Spring 2005
Problem Set #2

Due: Tuesday, February 15, 2005

1. Given goods X and Y. Bundle A has 3X and 4Y, bundle B has 4X and 6Y, and bundle C has 5X and 4Y. Illustrate and use your diagram to answer these questions:
   (a) Is any bundle clearly preferred to the other two? Explain briefly.
   (b) Could a consumer possible find A and C to be equally acceptable? Why or why not?
   (c) If a consumer is indifferent between bundles B and C, what is this consumer's MRS between X and Y?

2. Suppose the following: In period 1 your money income was $100 per week, milk shakes were $4 apiece, banana splits were $1 each; no other goods are available. In period 2 your money income increases to $200, milk shakes rise to $10, and banana splits to $2. Can we say anything unambiguous about your standard of living? If so, what? Illustrate your answer.

3. Suppose that you work as a "gutter" in a chicken processing plant and that you are paid your monthly income in kind: you get forty chickens per week. Only one other good, grapefruit, is produced, and there is no money in this economy at all. Goods are bartered by persons not content with their holdings of chickens and grapefruit.
   (a) Other individuals are willing to trade at the rate of 2.5 grapefruit per chicken. Construct your budget constraint.
   (b) After you have finished trading chickens for grapefruits each month, what will be your marginal rate of substitution between the two goods?

4. Manfred consumes two commodities, beer and pizza. At his current rate of consumption, Manfred's marginal rate of substitution between beer and pizza is 2 beers for 1 pizza. Manfred's income is $36 per week. Pizzas are priced at $4 each, and beers are priced at $1 each. Illustrate Manfred's situation in a budget constraint-indifference curve diagram. Is Manfred maximizing utility? Explain why or why not.

5. Harry's annual income is $4000. When the price of gasoline is $2 per gallon, Harry consumes 1000 gallons per year. The price of gasoline rises to $3 per gallon, and to offset the harm to Harry the government gives him a cash transfer of $1000 per year.
   (a) Illustrate Harry's original budget constraint and indifference curve.
   (b) Show the effect of the price increase for gasoline on Harry's budget constraint before he gets any money from the government, and then show Harry's new budget constraint after both the gasoline price increase and the government cash grant.
   (c) Will Harry be better or worse off than he was originally? Explain your answer by illustrating Harry's new indifference curve.