Problem Set #3 Name_____
PPA 723 Morning Afternoon
Professor John McPeak
Due _____

1) Ice Scream: Milk-Fat Prices Raise Cost of Summer Treat

Wall Street Journal; New York, N.Y.; Jul 24, 2001;

Just when you really, really want an ice cream cone, the price is rising. But it isn't summertime gouging by manufacturers. The cost of milk fat, the principal ingredient in ice cream, jumped 71% during the past six months to $2.22 at the end of June. As a result, retail prices are up 4% from last year, manufacturers say, triggering a 3% drop in consumption.

Based on the information presented above, answer the following questions.

a) Draw a supply and demand graph representing the situation in the retail ice cream market before the milk fat price rise. Illustrate on this graph where the impact of the milk fat price rise will manifest itself in the retail ice cream market.

b) What is the implied elasticity based on the information in the last sentence?

c) Is this an income elasticity, a supply elasticity, an own price demand elasticity or a cross price demand elasticity? Why?

d) Is the computed elastic inelastic, unit elastic, or elastic? How do you interpret this result?

2) Concert ticket prices hit new high note

USA Today, July 10, 2001
www.usatoday.com

> It costs a lot more to see your favorite band in person, and there seems to be no end in sight to the skyrocketing ticket costs. The average ticket price during the first six months of 2001 was $46.69, a 4.2% jump from the same period last year, according to a report released Monday by the concert trade publication Pollstar. In the past four years, concert ticket prices have nearly doubled. The report suggests concertgoers have finally had enough: Ticket sales were down 15.5% this year vs. the first six months of 2000.

a) What is the implied price elasticity of demand for concert tickets?

b) Is this inelastic, unit elastic, or elastic? How do you interpret this finding?

c) Do you think the situation outlined in the paragraph above could be explained by a shift in consumer tastes away from concert going in response to technology improvements in home entertainments systems between 2000 and 2001? Explain using supply and demand curves why or why not.

d) Assume the price listed in the above paragraph is inclusive of a 12% ad valorem tax (price paid by consumers is divided up 12% to the government, 88% to the producers according to the way the policy is designed).

i. What is the implied tax revenue per ticket?

ii. What price do ticket suppliers receive per ticket?

iii. If the tax was removed, would the price per ticket received by suppliers increase, decrease, or stay the same? Why?

iv. If the tax was removed, would the quantity of tickets sold increase, decrease, or stay the same? Why?

v. Illustrate using a supply and demand graph the 12% ad valorem tax and the no tax scenario.

3) If the price of good 1 is $3 per unit, the price of good 2 is $6 per unit, and the consumer's income is $90

a) draw the consumer's budget constraint.

b) draw this budget constraint if the price of good two is reduced to $3 per unit.

c) draw the budget constraint if the consumer's income rises to $120, with the original prices of good 1 at $3 and good 2 at $6.

d) draw the budget constraint if the consumer's income rises to $180, the price of good one doubles to $6 per unit, and the price of good two doubles to $12 per unit. (notice anything?)

4) When we compare the following bundles to the bundle (2 units of good 1, 3 units of good 2), can we say the proposed bundle is more preferred, is less preferred, or that we can't be sure without more information: (circle one for each proposed bundle)

(1,2)	More	Less	Need Information
(3,4)	More	Less	Need Information
(1,4)	More	Less	Need Information
(5,1)	More	Less	Need Information
(5,5)	More	Less	Need Information

Plot these points in comparison to the reference bundle of (2,3).

5) Taxes. In all cases, describe the original equilibrium price quantity pair, the price paid by consumers, the price received by producers, the size of the tax revenue, and the quantity supplied / demanded when the tax is imposed.

   a. Illustrate on a graph the impact of a specific tax placed on producers.

   b. Illustrate on a graph the impact of an ad valorem tax placed on consumers.

   c. Explain the concept of consumer incidence using the graph you drew for (b).

6) I know the price of coffee is $1.00 per unit and the price of Tylenol is $.50 per unit (for our graduate student consumer, this is all they consume!). I also know that the consumer is currently purchasing 4 units of coffee and 6 units of Tylenol. I also know that the marginal utility of coffee at a bundle the consumer is buying is 1 the marginal utility of Tylenol is 3. The graduate student has an income of $7.00 per day.
    a. Describe how we know the bundle in question lies on the budget line (rather then below the budget line in the opportunity set or above the budget line).

    b. Explain why the point where the consumer has the marginal utilities described above is not the optimal bundle.

    c. Is the optimal bundle going to be composed of more coffee and less Tylenol or less coffee and more Tylenol than the consumption bundle the consumer is currently at? Why?

    d. Show on graph that illustrates indifference curves and budget constraints where the consumption bundle described in the introduction to this problem lies in relation to the optimal bundle.

7) Indifference curves.
    a. Draw an indifference curve where the two goods in questions are perfect complements, and then draw one where the two goods in question are perfect substitutes. Provide examples of the goods in each scenario (make up a story).

    b. Is the shape of indifference curves influenced by changes in market prices? Why or why not.

    c. Why can't indifference curves cross?

8) If $p_1 = 4$, $p_2=3$, and $Y=48$
   a. Draw the budget constraint.

   b. Show how to derive an individual's demand curve for a given consumer's preferences (drawn as you like so long as they obey the properties of indifference curves discussed in class) from the price consumption curve using the example of $p_1 = 2$ all else constant, and $p_1 = 6$ all else constant.

c. Show how to derive another individual's demand curve for a different consumer's preferences (drawn as you like so long as they obey the properties of indifference curves discussed in class and differ from the individual in b) from the price consumption curve using the example of $p_1 = 2$ all else constant, and $p_1 = 6$ all else constant.

d. Show how to derive a market demand curve from a set of demand curves reflecting these two individual consumers' preferences.

9) The price of food is $50 per unit, the price of all other goods is $10 per unit, and the consumer's income is $500.
    a. Draw the consumer's budget constraint.

    b. If the consumer's income changes to $1000 by being given a cash grant of $500, draw the new budget constraint.

    c. If the consumer from the original problem (with an income of $500) is given $500 in food stamps rather than a cash grant of $500, draw the new budget constraint.

    d. Show an example of an indifference curve where the consumer is made equally well off by either a cash transfer or a food stamp program. Illustrate using the budget lines of b and c.