Problem Set #2

1.   Define "normal good" and "inferior good." Describe two goods which are normal for you and two goods you consider to be inferior. Explain why you classified these goods accordingly. If your current income doubles, how will your consumption of these goods change?

Normal good:
A good that is "normally" related in the eyes of the consumer to income: If a consumer receives more income she will consume *more* of a normal good.

Examples: Vacations, The latest sneakers from Adidas$^{©}$.

Inferior good:
A good that is perceived as "inferior" (to some closely related good) by the consumer: If a consumer receives more income he will consume *less* of an inferior good (because he can now afford normal goods as substitutes.)

Examples: McSalmonella burgers, Wal-Mart$^{©}$ brand sneakers.

2.   (a) Which is greater: your <u>total</u> utility from two slices of pizza or from four slices of pizza? Why?

Total Utility (2 slices) < Total Utility (4 slices)
So long as each slice generates positive utility (pleasure, not pain) for the consumer, eating more slices will increase the total utility for the consumer. This is true even though we can expect that the 3rd and 4th slices generate less additional utility than the first 2—see (b) below.

(b) Which is greater: your <u>marginal</u> utility of the second slice of pizza or your marginal utility of the fourth slice? Why?

Marginal Utility (2nd slice) > Marginal Utility (4th slice)
The marginal utility of each slice (i.e. the extra utility generated by the last unit consumed) diminishes as more pizza is consumed because we tend to appreciate goods we have not yet consumed much of over goods which we have consumed a lot of. (The "law" of diminishing marginal utility)

(Hint: Precisely define the concepts of total utility and marginal utility when framing your answers.)

3. Suzi Q spends all her income on used books and bagels. Draw her budget line where:

(a) her income is $60, the cost of a used book is $1 and the cost of a bagel is $2;

(b) her income is $90 and the prices stay constant;

(c) her income is $60 and the price of used books rises to $2 and the price of bagels rises to $4;

(d) her income is $60 and the price of used books rises to $4, price of bagels is $2 as in part (a).
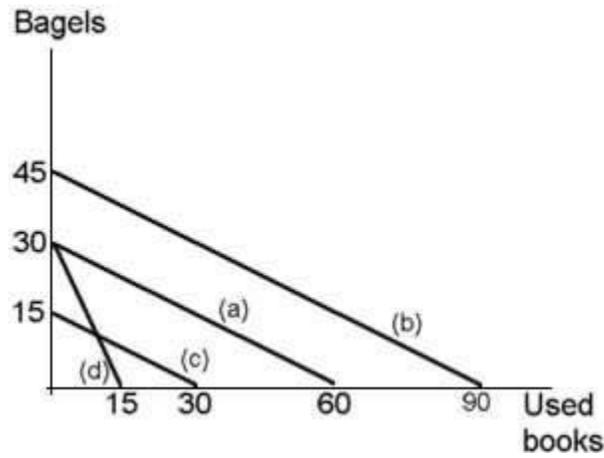

4. Explain the meaning of the <u>slope</u> of the indifference curve.

The slope of the indifference curve is called the Marginal Rate of Substitution. It represents how many units of one good the consumer *is willing to* give up in exchange for one unit of the other good while remaining just as satisfied (i.e. having the same total utility.)

5.

P	$10	9	8	7	6	5	4	3	2	1
Q	0	1	2	3	4	5	6	7	8	9

An individual's demand schedule for "Beefy" T-shirts is given above. Suppose there are 10 people in the market, and each has the same demand schedule.

a) Find the demand schedule for the market.

		0	10	20	30	40	50	60	70	80	90
P		$10	9	8	7	6	5	4	3	2	1
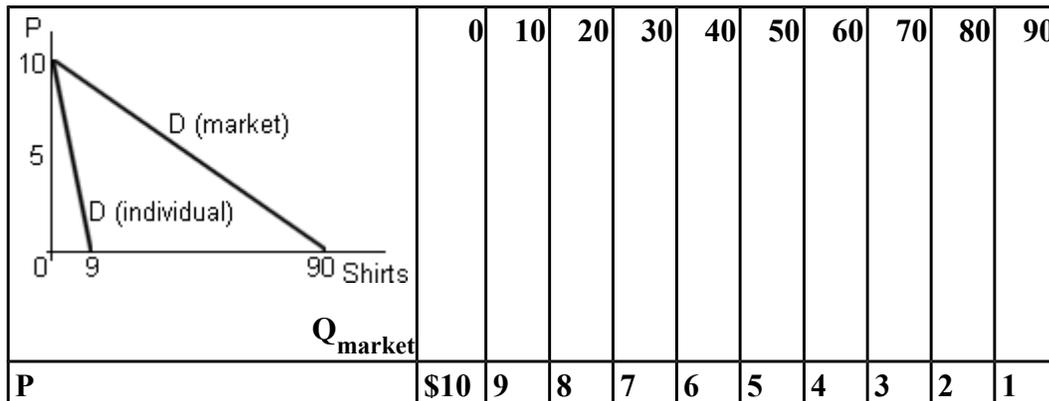
b) Draw an individual's demand curve and the market demand curve. (see above)

c) Calculate the elasticity of demand for an individual demand curve and the market curve when price increases from $5 to $6.
Depending on which formula for elasticity you used,
Point-to-point Elasticity

$$|\varepsilon| = |\{(4\text{-}5) / 5\} / \{(6\text{-}5) / 5\}| = |\text{-} 1| = 1$$

$$|\varepsilon_{\_market}| = |\{(40\text{-}50) / 50\} / \{(6\text{-}5) / 5\}| = |\text{-} 1| = 1$$

Arc Elasticity

$$|\varepsilon| = |\{(4\text{-}5) / (4+5)/2\} / \{(6\text{-}5) / (6+5)/2\}| = |\text{-} 1.23| = 1$$

$$|\varepsilon_{\_market}| = |\{(40\text{-}50) / (40+50)/2\} / \{(6\text{-}5) / \}| = |\text{-} 1.23| = 1.23$$

Clearly shirts are in the range from unit elastic to an elastic product. In other words the quantity demanded by consumers is sensitive to price.

d) "Beefy" is just one among several brands of T-shirts in the market. Is the demand for "Beefy" more or less elastic than the demand for all brands taken together.?
η (specific brand) > η (generic good)

e) Assume you are not a fussy consumer and do not care what brand of T-shirt you wear. What does this say about your elasticity of demand for "Beefy" T-shirts?

The elasticity of demand for "Beefy" T-shirts is unit elastic (point-to-point) or elastic based on arc elasticity.

6. Suppose you are part of a management team that is considering a change in the price your firm charges for its compact discs. One member of the team believes the price elasticity of demand for compact discs is 0.5, another member believes it is 1.5 and a third argues it is 1.0. Does it matter which is correct? If so, why?

If $\varepsilon = 0.5$ then raising price will result in *increased* revenue to the firm.
If $\varepsilon = 1.5$ then raising price will result in *reduced* revenue to the firm.
If $\varepsilon = 1$ then raising price will result in *no change* to the revenue to the firm.

7. In each of the following pairs of items, select the one that would have the more elastic demand. Indicate whether the main determinant of elasticity is:

(i) the degree of substitutability;

(ii) the portion of buyer's income devoted to expenditure on the good;

(iii) the length of time over which demand conditions are considered.

	More Elastic	*Determinant* *(i/ii/iii)*
meat or beef	**beef**	**(i)**
demand for gasoline this week or demand for gasoline this year	**Demand this year**	**(iii)**
toothpaste or shoes	**shoes**	**(ii)**
salt or butter	**butter**	**(i)**