1) The following table shows the maximum amount of money you would be willing to pay for increasing numbers of chicken pieces at Fastfood:

Chicken Pieces	Maximum Payment	Marginal Utility
1	$3.00	$3.00
2	5.70	2.70
3	8.10	2.40
4	10.20	2.10
5	12.00	1.80
6	13.50	1.50
7	14.70	1.20
8	15.60	0.90
9	16.20	0.60
10	16.50	0.30
11	16.50	0.00

a. Find the marginal utility (MU) for each chicken piece. What is the meaning of the MU of the 11th piece?

Marginal utility is shown above. The marginal utility of the 11th piece is zero, indicating that you are not willing to pay any money to receive the 11th piece.

b. If the price of chicken pieces is $1.55 each, how many will you buy?

I will buy 5 pieces. I would not buy the 6th piece because it is worth less to me (i.e., $1.50) than the $1.55 price that is charged for it.

c. If the price falls to $1.00, how many will you buy? Explain carefully why you will not buy one more.

I will buy 7 pieces where MU > P. Again, I would not buy the 8th piece where MU < P.

d. Suppose that Fastfood stops selling chicken pieces individually, and only sells them in 4-packs. The price of a 4-pack is $4.00. How many chicken pieces will you consume? Reconcile your answers to c and d.

I would now consume 8 pieces of chicken. The first 4 pieces are worth $10.20 to me --the sum of the MU from servings 1 to 4. The second 4 pieces are worth $5.40 to me --the

sum of the MU from servings 5 to 8. Part c compares the MU and price of each piece, while part d compares the sum of MU and price of 4 pieces.

e. Are you better off buying the chicken pieces individually (as in part c) or in packages of 4 (as in part d)? Explain why and provide calculations to support your answer.

I am better off buying the pieces individually because consumer surplus is higher. Consumer surplus is $7.70 in part c and $7.60 in part d.

f. Calculate your elasticity of demand when the price falls from $1.80 to $1.20.

Recall that the marginal utility curve is the demand curve, so as the price falls from $1.80 to $1.20 the quantity demanded rises from 5 to 7. The elasticity is --0.83 (i.e., (2/6)/(0.60/1.50) so demand is inelastic.

(2) You have 5 hours left to study for two exams tomorrow. The relationship between hours of study and test scores is as follows:

Economics		Grade rise	Business Law	Grade rise
Hours	Score	(per hour)	Score	(per hour)
1	50	---	75	---
2	65	15	85	10
3	75	10	90	5
4	80	5	93	3
5	85	5	95	2

How should you allocate your study time?

Time is money in this example, so you want the largest grade increase per hour spent. But, you also want to equate the return to study time across both subjects. Thus, 3 hours should be devoted to studying economics, while 2 hours should be spent studying business law. With such an allocation the marginal hour invested in studying each subject produces the same 10-point gain in scores.

3) a. If Clint's elasticity of demand for cigars is zero, can you say anything about the relative magnitudes of the income and substitution effects associated with a change in the price of cigars for Clint? Explain why or why not.

The magnitude of the income and substitution effects must be equal in size and opposite in sign. If the magnitudes were not equal and exactly offsetting in sign, then Clint's elasticity of demand would not equal zero.

b. If Clint's elasticity of demand for cigars is equal to zero, are cigars a normal or an inferior good for Clint? Explain.

Recall that the substitution effect is always negative. Cigars must be an inferior good since the (positive) income effect must counteract the (negative) substitution effect to result in a net change in consumption of zero.