Unit 4. Consumer choice
Free response questions

2008 AP® MICROECONOMICS FREE-RESPONSE QUESTIONS

2. Utility and price elasticity of demand are important concepts in explaining consumer behavior.

   (a) Define marginal utility.

   (b) The table below shows the quantities, prices, and marginal utilities of two goods, fudge and coffee, which Mandy purchases.

	Fudge	Coffee
Quantity of purchase	10 pounds	7 pounds
Price per pound	$2	$4
Marginal utility of last pound	12	20

   Mandy spends all her money and buys only these two goods. In order to maximize her utility, should Mandy purchase more fudge and less coffee, purchase more coffee and less fudge, or maintain her current consumption? Explain.

   (c) Assume that consumers always buy 20 units of good R each month regardless of its price.

      (i) What is the numerical value of the price elasticity of demand for good R?

      (ii) If the government implements a per-unit tax of $2 on good R, how much of the tax will the seller pay?

2002 AP® MICROECONOMICS FREE-RESPONSE QUESTIONS

3. The table below shows total utility in utils that a utility-maximizing consumer receives from consuming two goods: apples and oranges.

Apples		Oranges	
Quantity	Total utility	Quantity	Total utility
0	0	0	0
1	20	1	30
2	35	2	50
3	45	3	65
4	50	4	75
5	52	5	80

Assume that apples cost $1 each, oranges cost $2 each, and the consumer spends the entire income of $7 on apples and oranges.

(a) Using the concept of marginal utility per dollar spent, identify the combination of apples and oranges the consumer will purchase. Explain your reasoning.

(b) With the prices of apples and oranges remaining constant, assume that the consumer's income increases to $12. Identify each of the following.

(i) The combination of apples and oranges the consumer will now purchase

(ii) The total utility the consumer will receive from consuming the combination in (i)

(c) With income remaining at $12, assume the price of oranges increases to $4 each. Identify each of the following.

(i) The combination of apples and oranges the consumer will now purchase

(ii) The total utility the consumer will receive from consuming the combination in (i)

2009 AP® MICROECONOMICS FREE-RESPONSE QUESTIONS (Form B)

2. Sasha is a utility-maximizing consumer who spends all of her income on peanuts and bananas, both of which are normal goods.

(a) Assume that the last unit of peanuts consumed increased Sasha's total utility from 40 utils to 48 utils and that the last unit of bananas consumed increased her total utility from 52 utils to 56 utils.

(i) If the price of a unit of peanuts is $1 and Sasha is maximizing utility, calculate the price of a unit of bananas.

(ii) If the price of a unit of peanuts increases and the price of a unit of bananas remains unchanged from the price you determined in part (a)(i), how will Sasha's purchase of peanuts change?

(b) Assume that the cross-price elasticity of demand between peanuts and bananas is positive. A widespread disease has destroyed the banana crop. What will happen to the equilibrium price and quantity of peanuts in the short run? Explain.

(c) Assume that the price of bananas increases.

(i) Will the substitution effect increase, decrease, or have no effect on the quantity of bananas demanded?

(ii) What happens to Sasha's real income?

Sasha has an income of $40 to spend on two goods. Good 1 costs $10 per unit, and good 2 costs $5 per unit.

(A) Write down Sasha's budget constraint. If Sasha spends all his income on good 1, how much can he buy? If Sasha spends all of his income on good 2, how much can he buy? Draw Sasha's budget line.

(B) Suppose that the price of commodity 1 falls to $5 while everything else stays the same. Write down his new budget constraint. On the same graph, draw Sasha's new budget line.

(C) Suppose that the amount he is allowed to spend falls to $30, while the prices of both commodities remain at $5. Write down and draw his budget constraint.

(D) On your diagram, use blue ink to shade in the area representing commodity bundles that Sasha can afford with the budget in Part (C) but could not afford to buy with the budget in Part (A). Use black ink or pencil to shade in the area representing commodity bundles that Sasha could afford with the budget in Part (A) but cannot afford with the budget in Part (C).

Two people, Catherine and Nicholas, are the only consumers of candy in a village. Their weekly demand for candy is as follows:

Catherine		Nicholas		**Market demand**	
P	**Q**	**P**	**Q**	**P**	**Q**
3.50	0	3.50	1		
3.00	1	3.00	2		
2.50	3	2.50	3		
2.00	5	2.00	4		
1.50	7	1.50	5		
1.00	9	1.00	6		

A. Compute the market demand schedule. Draw individual demand curves and the market demand curve.

B. Assume that supply of candy in the village is as follows:

P	**Q**
1.00	0
1.50	4.50
2.00	5.00
2.50	6.00
3.00	10.00

What are the equilibrium price and quantity if the candy market is not regulated?

C. Now assume that the village council decides to help the candy producer and sets a price floor of $2.00 per candy. Assuming that the price floor is observed, what happens to demand for candy? Supply of candy? Quantities demanded and supplied?