

SECTION I.

1. What determines a household's consumption possibilities?
2. How would you answer someone who says that marginal utility theory is useless because utility cannot be observed?
3. What is consumer surplus? How is consumer surplus calculated?
4. What is a firm and what is the fundamental economic problem that all firms face?

SECTION II.

1. The demand curve and supply curve for two-bedroom apartments in Martinsville are given in the table below.

Price	Quantity Demanded	Quantity Supplied
\$800	100	500
\$750	200	500
\$700	300	450
\$650	400	400
\$600	500	300

- a. Graph the market for two-bedroom apartments in Martinsville. Label the equilibrium A.
- b. Suppose that landlords are required to pay \$100 per apartment in a renter's tax to the city government. Use supply and demand analysis to determine the incidence of the tax.
- c. Now suppose that this tax is paid by the demanders of the apartments rather than the suppliers. Label the new equilibrium C. Use supply and demand analysis to determine the incidence of the tax. Is this incidence the same as in (b)?

2. The table below gives Robbie's willingness to pay (utility) for various hours of on-line computer access per week. Suppose that Robbie's marginal utility is measured in \$US. On-line time is priced at \$12 per hour.

Number of Hours	Total Utility (\$)
0	0
1	20
2	38
3	54
4	68

5	80
6	90
7	98
8	104

- Compute the marginal utility for each hour.
- How many hours of on-line service will Robbie purchase?
- Compute Robbie's consumer surplus for this good.

3. The table below gives the production function for the insect spray Nobeetle at Bugout Pesticide Company.

#workers	Output	Avg. Product	Marginal Product
1	1200		
2	2200		
3	3000		
4	3600		
5	4000		

- Compute the average and marginal products for each worker. Construct a table identical to the one above, and fill in the average and marginal product columns.
- Graph the production function. On a separate graph, plot the average and marginal production functions.
- Does this production function exhibit diminishing, constant, or increasing returns per worker? Why or why not? Explain.