

ECON 101 - 001

HW 2

You should submit a typed copy of your responses to Turnitin by April 27th at 17:30. There will be no exceptions for assignments that are not turned in. Those of you who did not turn in an assignment to Turnitin before should practice before the deadline to make sure that they can do it (you can resubmit your HW multiple times until the deadline).

1. Currently, the clover market is competitive, and the demand for and supply of clover are as follows:

Price (\$ per bushel)	Quantity Demanded (bushels per year)	Quantity Supplied (bushels per year)
0.0	425	0
0.2	400	0
0.4	375	0
0.6	350	0
0.8	325	0
1.0	300	200
1.2	275	225
1.4	250	250
1.6	225	275
1.8	200	300
2.0	175	325

- a. The Waltham City Council seeks to protect consumers from excessive prices for clover. It introduces a price ceiling of \$1.20 per bushel. Calculate the price, quantity bought and sold, the farm revenue, consumer and producer surpluses.
 - b. The Waltham City Council seeks to protect consumers from excessive prices for clover. It introduces a price ceiling of \$1.60 per bushel. Calculate the price, quantity bought and sold, the farm revenue, consumer and producer surpluses.
 - c. A member of the Council is against the protection of the consumers. On the contrary wishes that the City Council impose a sales tax on clover. She argues that the tax should be \$0.40. What will the new equilibrium in the market be? How much of the tax is borne by consumers and how much is borne by the producers?
2. Suppose that business travelers and vacationers have the following demand for airline tickets from Ankara to Istanbul:

	Quantity demanded (Business travelers)	Quantity demanded (vacationers)
Price 100	2400	1050

200	2300	950
250	2200	850
300	2100	750

- As the price of tickets rises from TL200 to TL250, what is the price elasticity of demand for business travelers and vacationers?
- According to your estimates in part (a) and the assumption that there are equal number of vacationers and business travelers, what must have happened to the Airline's revenue when the fare rose from \$200 to \$250?
- Why do the vacationers have a different elasticity than business travelers?

3. The total product schedule of coffee production by Nescafe is:

Labor (workers per week)	Output (kgs. of coffee per week)
1	1
2	3
3	6
4	10
5	15
6	21
7	26
8	30
9	33
10	35

- Draw the total product curve.
 - Calculate the average product of labor and draw the average product curve. Explain what average product of labor means.
 - Calculate the marginal product of labor and draw the marginal product curve. Explain what marginal product of labor is.
 - What is the relationship between average product and marginal product when Nescafe produces (i) less than 30 kilograms (kgs) of coffee a week, (ii) more than 30 kgs of coffee a week?
4. In problem 1, assume the price of labor is TL 100 million a week and total fixed cost is TL 200 million a week.
- Calculate the total cost, total variable cost, and total fixed cost for each output and draw the short-run total cost curves (i.e. the total cost, the total variable cost and the total fixed cost curves).
 - Calculate the average total cost, average fixed cost, average variable cost, and marginal cost at each output and draw the short-run average and marginal cost curves.

- c. Assume that Nescafe buys a second plant and the total product of each quantity of labor double. The total fixed cost of operating each plant is TL 200 million per week. The wage rate is TL 100 million a week.
 - d. Set out the average total cost schedule when Nescafe operates two plants.
 - e. Draw the long-run average cost curve.
 - f. Over what output ranges is it efficient to operate one plant and two plants?
5. The table shows the maximum amount of money you would be willing to pay for increasing numbers of chicken pieces at Fastfood.

<u>Chicken Pieces</u>	<u>Maximum Payment</u>
1	\$2.00
2	3.80
3	5.40
4	6.80
5	8.00
6	9.00
7	9.80
8	10.40
9	10.80
10	11.00
11	11.00

- a. Find the marginal utility for each chicken piece. What is the meaning of the marginal utility of the 11th piece?
- b. If the price of chicken pieces is \$1.25 each, how many will you buy?
- c. If the price falls to \$0.50, how many will you buy. Explain carefully why you will not buy one more.
- d. Suppose now that Fastfood stops selling chicken pieces individually, and only sells them in 5-Packs. The price of a 5-Pack is \$2.50. How many chicken pieces will you consume? Reconcile your answers to (c) and (d).
- e. What is the consumer surplus, or net benefit, that you get from purchasing chicken pieces at \$0.50 as in (c)?