Fall 2023
ECO2011 L07-10
BASIC MICROECONOMICS
Sep 28, 2023
Barick Chung
Written assignment #01

Instructions:
1) Submit by 15:59 p.m. on Oct 13 (Friday), 2023 to the assignment drop box located on the 3rd floor of Zhiren building.
2) Late submission is not allowed. If there is reason that a late homework is accepted, at least 21 (out of 100) marks will be deducted.
3) Your answers must be in English.
4) Your answers must be in hand writing. Photocopy, computer printout or electronic submission will not be accepted.
5) Write down your name and student ID on the top of the front page of the answer sheets. Submission without a name or student ID will receive zero mark.
6) Once you have submitted your assignment work to the drop box, you cannot take it back or change any part of the answers.
7) If you submit more than one copy of the assignment work, the teaching assistants /or graders will randomly choose a copy to grade, and /or give you the lowest score among all your assignment work submissions.
8) Write on both sides of papers.
9) There is no need to copy the questions.
10) Use a pen /or a ball pen.
11) Staple your answer sheets if there is more than one sheet. If you do not staple your answer sheets, only the sheet that shows your name and student ID will be graded.
12) If you think there is chance of getting stuck, blocked, or locked down in your home town and cannot come back campus to submit your homework, work out your assignment work early and mail it to the teaching assistants' office (3rd floor, Zhiren building) by express delivery and make sure it arrives before the deadline.
13) If you have any question related to the submission of this written assignment, ask in Forum#2 on BB.
14) Read the University policy regarding academic honesty before doing this assignment.

Question 1

Consider the market for eggs. For each of the events listed here, (1) identify which of the determinants of demand or supply are affected. Also (2) indicate whether supply or demand increases or decreases. Then draw a (3) diagram to show the effect on the price and quantity of eggs.

a) The price of grain that is fed to hens falls.

b) The price of bacon falls.

c) A new study is released that indicates that eating eggs is hazardous to one's heath.

d) The number of egg-producing farms falls.

e) This weekend is the Easter holiday.

f) There is a technology advance that hens can lay more eggs in a week.

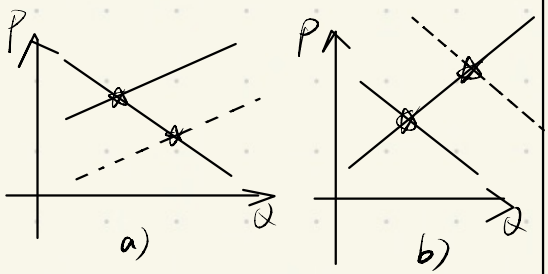
g) A virus killed many poultry.

Demand:
- Income
- Prices of related goods
- Tastes
- Expectations
- Number of buyers

Supply
- Input prices
- Technology
- Expectations
- Number of sellers

initial
present
equilibrium point

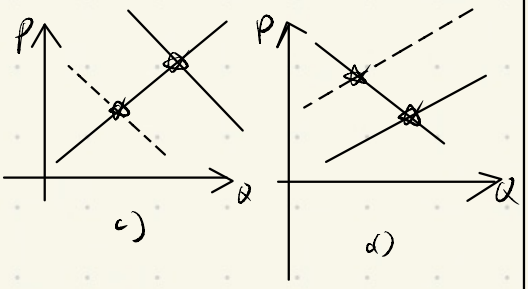
a) input price falls
⇒ supply increases



b) bacon and egg are complements
The price of bacon falls
⇒ Demand for bacon/egg increases

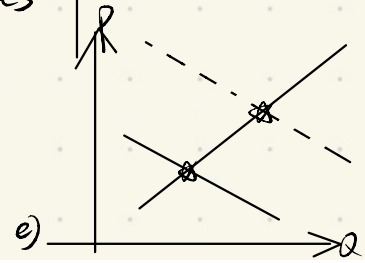
Price of related good falls

c) buyers' expectation falls
⇒ demand decreases

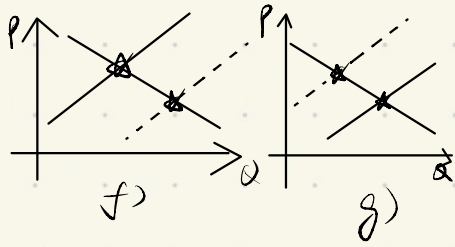


d) Number of sellers falls
⇒ supply decreases

e) buyers' expectation increases
⇒ demand increases



f) Technology advances
⇒ supply increases



g) The number of poultry decreases ⇒ The number of egg decreases
⇒ supply decreases

Question 2

	Labor hours needed to make one unit of		Amount produced in 40 hours	
	Cheese	Bread	Cheese	Bread
England	1	2	40	20
Spain	2	8	20	5

a) What is the opportunity cost of 1 unit of cheese in England? 0.5 bread

b) What is the opportunity cost of 1 unit of bread in England? 2 cheese

c) What is the opportunity cost of 1 unit of cheese in Spain? 0.25 bread

d) What is the opportunity cost of 1 unit of bread in Spain? 4 cheese

e) What is England's comparative advantage? bread

f) What is Spain's comparative advantage? cheese

g) What is England absolute advantage? cheese & bread

h) What is Spain's absolute advantage? nothing

i) If both England and Spain both could benefit, relative to a situation in which neither country is specializing, what does England specialize in? bread

Question 3

The following table shows the total revenue and total cost of the business operation of a monopoly.

output	total revenue	marginal revenue	total cost	marginal cost	marginal profit
0	$0	–	$0	–	–
1	10	10	1	1	9
2	18	8	3	2	6
3	24	6	6	3	3
4	28	4	10	4	0
5	30	2	15	5	-3
6	30	0	21	6	-6
7	28	-2	28	7	-9
8	24	-4	36	8	-12

a) Fill in the blanks in the table.

b) What is the optimal output of the monopoly? 4

c) What is the monopoly's maximum profit? 18

1+10+100

1+55+121

Question 4

Suppose that the total cost function is $TC(Q) = 1 + 5 \times Q + Q^2$.

a) What is the total cost of the production when output is 10 units? 151

b) What is the total cost of the production when output is 11 units? 177

c) What is the marginal cost of the production when output is 11 units? 26

d) What is the total cost of the production when output is Q–1 units? Q^2+3Q-3

e) What is the total cost of the production when output is Q units? Q^2+5Q+1

f) Use your results in parts (d) and (e) to find the marginal cost of the production when output is Q units? $2Q+4$

g) Use your results in part (f) to find the marginal cost of the production when output is 11 units? 26

h) Use your results in part (f) to find the marginal cost of the production when output is 18 units? 40

Question 5

Suppose quantity demanded in market good X is Qd = 108 – P + 3 I , and quantity supplied in market X is Qs = 20 + 2 P .

a) If income I is 10, what is the quantity demanded? $138 - P$

b) If income I is 20, what is the quantity demanded? $168 - P$

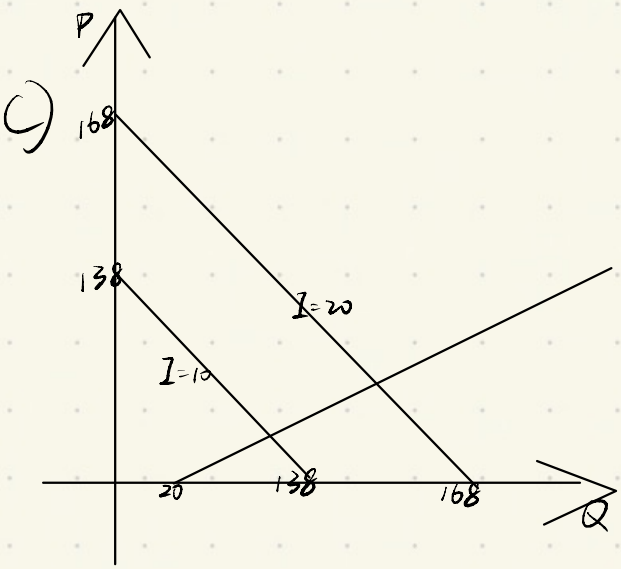
c) Plot the supply and demand curves when I = 10 and I = 20.

d) If income I is 10, what is the market equilibrium price and equilibrium quantity? $P = \frac{118}{3} \approx 39.3 \quad Q = \frac{236}{3} \approx 98.7$

e) If income is I, what is the market equilibrium price and equilibrium quantity? $P = \frac{88}{3} + I \quad Q = \frac{236}{3} + 2I$

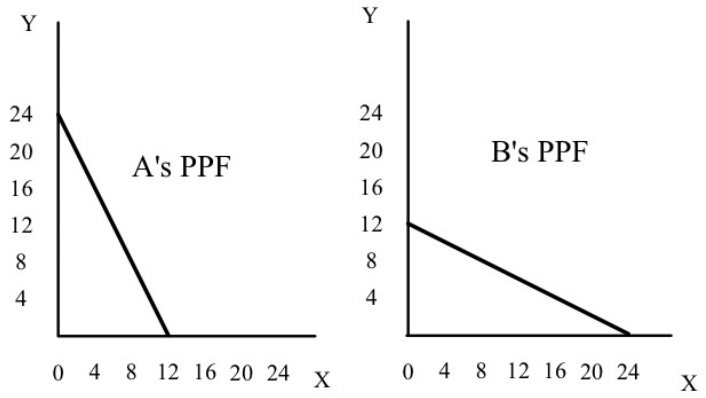
f) Is good X a normal good or inferior good?

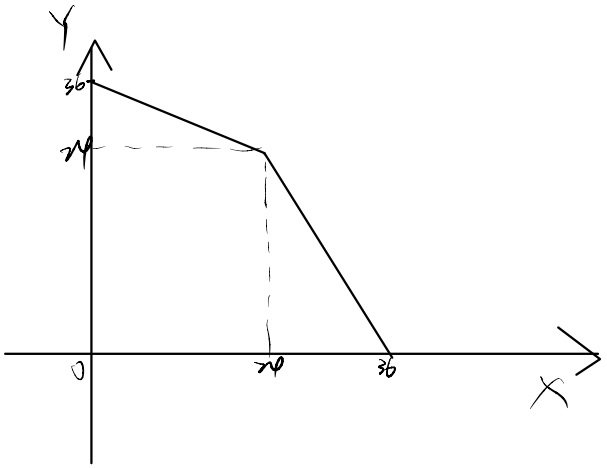
c)



Question 6

In country Z, there are two goods, X and Y, and two individuals, A and B. The two individuals' PPF's are as follows:





Draw the country's PPF. Briefly explain.

***** End *****

When A and B both produce X or Y, a total of 36 units of X or 36 units of Y can be produced. Therefore, the intercepts of the X and Y axes are both 36. When the proportion of Y in the total production is larger, it can be observed that A has a stronger ability to produce Y. To maximize the total production, let A produce all Y while increasing the production of X by B and decreasing the production of Y. Similarly, when the proportion of X in the total number of goods is larger, let B produce all X while increasing the production of Y by A and decreasing the production of X. Therefore, the graph will have a turning point at coordinates (24, 24).