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Economics 201

Midterm #1: Solutions

Part 1 (Multiple Choice)
1. D
2. A
3. C
4. B
5. D
6. A
7. E
8. B
9. A
10. B
11. A
12. C
13. C
14. D
15. C
16. D
17. B
18. A
19. C
20. A
21. C
22. A
23. B
24. A
25. D
26. E
27. C
28. B
29. D
30. A
31. E
32. B
33. A
34. C
35. C

Part II. Short Answer Questions (20 pts overall)

In answering the question below, if a calculation is required, then you must show any relevant work or make it very clear as to how you arrived at your answer. Just providing an answer without supporting work or any explanation will not allow you to get any credit for your answer.

[8 pts] 1. Uzbekistan and Khazakstan both produce cotton and oil, which we'll assume corresponds with the PPC tables below.

Uzbekistan	A_1	A_2	A_3	A_4	A_5	A_6	A_7
Cotton	0	4	8	12	16	20	24
Oil	18	15	12	9	6	3	0

Khazakstan	B_1	B_2	B_3	B_4	B_5	B_6	B_7
Cotton	0	6	12	18	24	30	36
Oil	48	40	32	24	16	8	0

Show which country has the comparative advantage in producing cotton, and which country has the comparative advantage in producing oil?

Note that there is work involved with answering this question, and you must show enough of your work to make it very clear as to how you got your answer.

Uzbekistan
- Opportunity cost of each unit of cotton = 3/4 units of oil
- Opportunity cost of each unit of oil = 4/3 units of cotton

Khazakstan
- Opportunity cost of each unit of cotton = 4/3 units of oil
- Opportunity cost of each unit of oil = 3/4 units of cotton

Based on the calculation of opportunity cost within each country, Uzbekistan has a comparative advantage in producing cotton, and Khazakstan has a comparative advantage in producing oil

Part II. Short Answer Questions cont.

For full credit on questions #2 and 3, you must show all relevant work or make it exceedingly clear how you got your answer (no work, no credit). Note also that partial credit is possible.

Questions #2 and 3 use the following information:
The demand and supply curves below describe the U.S. market for sequined, white Elvis shirts.

> *Demand: P = 100 - 2Q$_d$*
> *Supply: P = 20 + 8Q$_s$*
> *(where P = price, Q$_d$ = quantity demanded and Q$_s$ = quantity supplied)*

[4 pts] 2. *What is the equilibrium price and quantity for Elvis shirts in the U.S.?*

Set Demand equal to Supply:
$$100 - 2Q = 20 + 8Q$$

Solve for Q*:
$$Q^* = 8$$

Plug Q* into Demand or Supply, and solve for P*
$$P = 100 - 2(8) = \$84$$

[6 pts] 3. *What is the direct effect of a $60 price ceiling that's placed on this market? If the ceiling leads to a surplus or shortage, then show the amount of that surplus or shortage.*

Since the price ceiling is set below the equilibrium price of $84, the direct effect will be a shortage.

When producers must charge the price ceiling price of $60, then we can determine their output (quantity supplied) by looking at the supply curve.

To find Q$_s$, set the Supply equation equal to $60 and solve for Q$_s$:

$$\$60 = 20 + 8Q_s$$
$$Q_s = 5$$

To find out how much people want to buy at a price of $60, set the Demand equation equal to $60 also, and solve for Q$_d$:

$$\$60 = 100 - 2Q_d$$
$$Q_d = 20$$

Any shortage is measured as the difference between quantity demanded and quantity supplied:

$$Q_d - Q_s = 20 - 5$$
$$Q_d - Q_s = 15$$

Use the following stock information from the Wall Street Journal to answer Question #4. We can assume that the equilibrium price is represented as the final price of the day (Close) and equilibrium quantity is the volume of units sold (Vol (100s)) by the end of the day.

July 15

Stock	Vol (100s)	Hi	Lo	Close	Net Chg
IBM	22686	120 5/8	119	119 5/8	+ 1/4
PepsiCo	94040	41 1/16	38 3/4	39 1/4	-2 3/16
Coca Cola Ent	1686	40 1/2	39 3/4	40 1/2	+7/16
Gen Motors	23161	70 7/8	69 1/4	69 5/8	+ 3/4

July 16

Stock	Vol (100s)	Hi	Lo	Close	Net Chg
IBM	25578	120	117	117	-2 5/8
PepsiCo	83314	39 7/8	38	38 1/8	-1 1/8
Coca Cola Ent	4470	40 13/16	40 1/4	40 3/4	+1/4
Gen Motors	22841	70 5/16	68 1/2	69 3/16	+3/16

4. Based on the day to day changes in the equilibrium within the market for each stock, explain what must have happened to the demand and/or supply curves within each of these markets.

[4 pts] a. IBM

Increase in supply

[4pts] b. PepsiCo

Decrease in demand

[4 pts] c. Coca Cola Ent.

Increase in demand