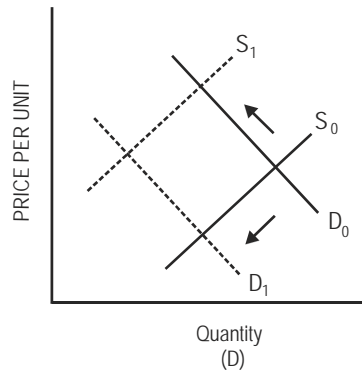
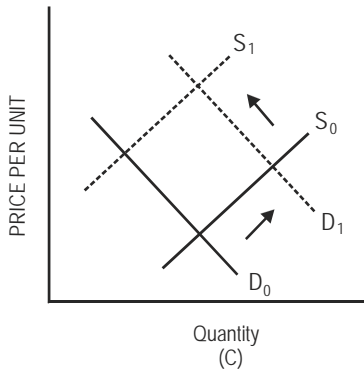
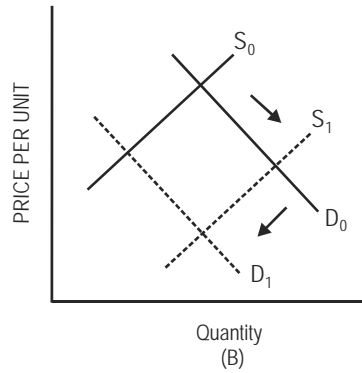
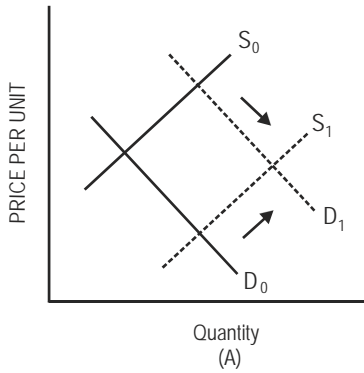


Econ 170: Contemporary Economics
Spring 2008
Final Exam / Section F: Solutions
120 points total

1. Markets (2 points each)



1a. Which panel represents the changes in the market for beef when the price of corn (cattle feed) rises and the Surgeon General reports that red meat contributes to coronary disease?

A) A B) B C) C D) D

Ans: D

1b. Which panel represents the changes in the market for hip-hugger jeans when U.S. college students decide hip huggers look really good and a large quantity of cheap hip-hugger jeans are imported into the United States?

A) A B) B C) C D) D

Ans: A

1c. Which panel represents the changes in the market for a college education when a college education becomes even more necessary in order to find a good job and the state builds more universities?

A) A B) B C) C D) D

Ans: A

2. Demand (2 points each)

Demand schedule for automobiles

<u>Price of new autos (dollars per auto)</u>	<u>Number of new autos (millions per year)</u>
\$30,000	5
\$25,000	15

- 2a. What is the total revenue from automobile sales at a price of \$25,000 per auto?
- A) \$450 billion per year. C) \$375 billion per year.
B) \$250 billion per year. D) \$125 billion per year.

Ans: C

- 2b. As price decreases from \$30,000 per car to \$25,000 per car:
- A) There is movement along the demand curve.
B) Total revenue increases.
C) The quantity of cars demanded increases.
D) All of the above.

Ans: D

2c. Using the total revenue rule, describe the price elasticity of demand for new automobiles. Briefly explain your answer.

Use TR rule:

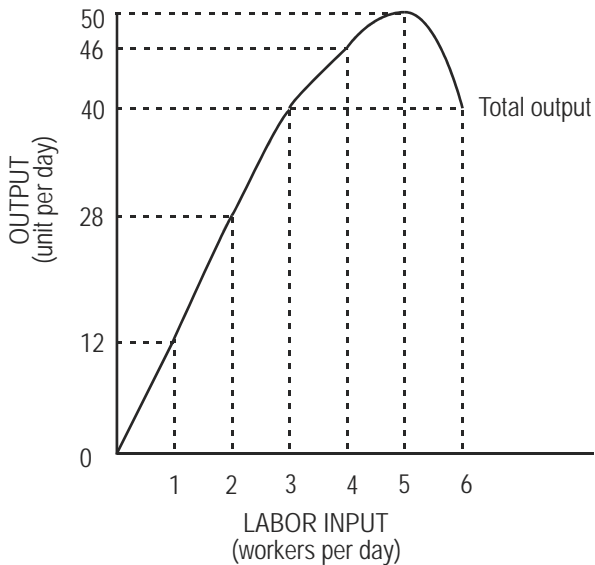
if TR increases as P decreases, elastic (very sensitive to lower price, buy lots more)
if TR decreases as P decreases, inelastic (not sensitive to lower price, do not buy much more)

Therefore, since TR increases when the price of an automobile decreases to \$25,000, demand is price **elastic**.

2d. The price of a laptop fell from \$2,000 to \$1,500, causing an increase in quantity demanded of 100 to 150. What is the price elasticity of demand for laptops in this market, and what happens to total revenue? Please calculate the precise elasticity and show your work.

E = 1.40, total revenue increases.

3. Production (2 points each)



- 3a. The marginal physical product of the third unit of labor is:
A) 8. B) 12. C) 28. D) 40.

Ans: B

- 3b. The marginal physical product of the fifth unit of labor is:
A) 0. B) 4. C) 46. D) 50.

Ans: B

- 3c. Diminishing marginal returns first occur with the:
A) Second worker. B) Third worker. C) Fifth worker. D) Sixth worker.

Ans: B

3d. Explain the law of diminishing returns (diminishing MPP).

After gains from specialization have been earned, each additional worker adds less than the previous since all other inputs (land, capital, entrepreneurship) are fixed. There are only a limited number of tasks that can be done at once, and only so much raw material for example, so additional workers add less than the initial ones.

4. Production costs (2 points each)

This table shows total costs at different output levels for a given plant.

<u>Output (units per day)</u>	<u>0</u>	<u>10</u>	<u>20</u>	<u>30</u>	<u>40</u>
Total cost (\$ per day)	30	55	78	100	150

4a. Fixed costs:

A) Are equal to \$30.

B) Are equal to zero.

C) Increase as output increases.

D) Decrease as output increases.

Ans: A

4b. The marginal cost is at a minimum when:

A) The first 10 units are produced.

B) Output increases from 10 units to 20 units.

C) Output increases from 20 units to 30 units.

D) Output increases from 30 units to 40 units.

Ans: C

4c. The lowest average total cost occurs at a production rate of:

A) 10 units per day. B) 20 units per day. C) 30 units per day. D) 40 units per day.

Ans: C

5. Market Structure (6 points)

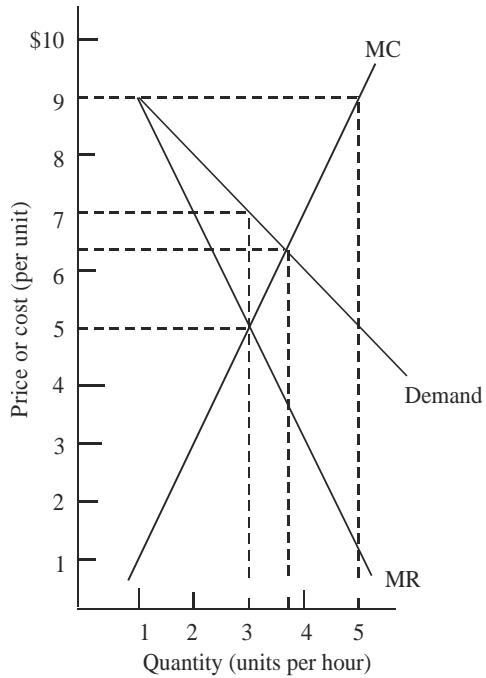
5a. Competition

With the aid of two graphs, and using the relationship between price and average total cost, illustrate and describe long-run equilibrium for competitive markets.

3 points for individual firm graph (show production at $P=MC$, profit if $P>ATC$, loss if $P<ATC$)

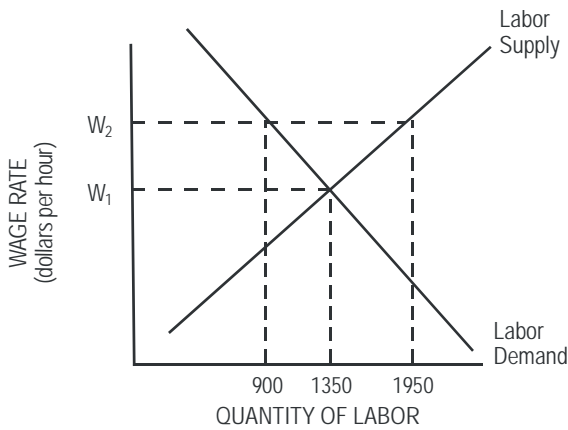
3 points for market graph (entry if profit, exit if loss, long-run equilibrium is zero profit, $P=ATC$)

6. Competition vs. Monopoly (2 points each)



- 6a. The profit-maximizing level of output for a monopolist is:
A) 2 units. B) 3 units. C) 4 units. D) Between 3 and 4 units.
Ans: B
- 6b. The price charged by a profit-maximizing monopolist is:
A) \$5.00. B) \$7.00. C) \$9.00. D) Between \$6.00 and \$7.00.
Ans: B
- 6c. If this industry is competitive, the profit-maximizing level of output is:
A) 2 units. B) 3 units. C) 4 units. D) Between 3 and 4 units.
Ans: D
- 6d. If this industry is competitive, the profit-maximizing price is:
A) \$5.00. B) \$7.00. C) \$9.00. D) Between \$6.00 and \$7.00.
Ans: D

7. Factor markets: Labor (2 points each 7a and 7b; 4 points 7c)



7a. The equilibrium wage rate is ____ and the number of unemployed workers is ____.

- A) w_1 ; 0. B) w_1 ; 1350. C) w_2 ; 0. D) w_2 ; 1350.

Ans: A

7b. At a wage of w_2 there is a:

- A) Surplus of labor equal to 450 workers. C) Shortage of labor equal to 1050 workers.
 B) Surplus of labor equal to 1050 workers. D) Shortage of labor equal to 600 workers.

Ans: B

7c. Describe the “winners” and the “losers” from the minimum wage policy (w_2) above. Please be specific (how many winners, how many losers, and how they won and lost from the policy).

Winners: 900 workers who kept their job and are making higher wage

Losers: 1050 workers: 450 lost their job, 600 willing to work but cannot find a job

8. Externalities (2 points each)

This table contains data on the social costs and benefits incurred in improving water quality in a lake. Complete the table and answer the question(s) below.

Costs of reducing water pollution

Water pollution (PPM)	45	35	25	10	0
Social benefit (dollars)	120	190	240	270	280
Social cost (dollars)	20	25	35	65	100
Marginal social benefit (dollars per PPM)		—	—	—	—
Marginal social cost (dollars per PPM)		—	—	—	—

8a. What is the marginal social benefit (in dollars per PPM) of reducing pollution rates from 25 to 10 PPM?
A) \$1. B) \$2. C) \$3. D) \$30.

Ans: B

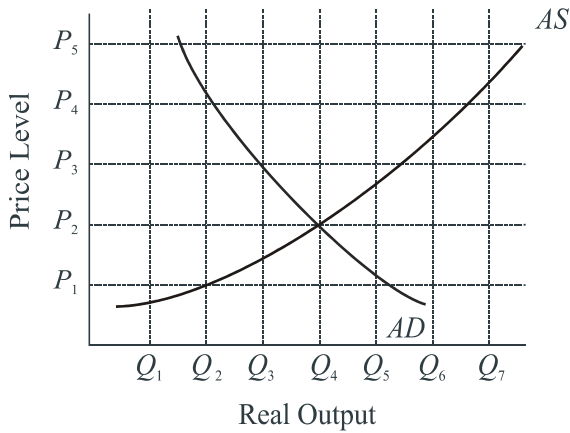
8b. What is the marginal social cost (in dollars per PPM) of reducing pollution rates from 35 to 25 PPM?
A) \$1.00. B) \$5.00. C) \$7.00. D) \$10.00.

Ans: A

8c. According to the schedule presented, which rate of pollution is optimal?
A) 50 PPM. B) 35 PPM. C) 10 PPM. D) 25 PPM.

Ans: C

9. Aggregate supply and demand (2 points each)



9a. At what level of output does equilibrium occur?

- A) Q_2 . B) Q_3 . C) Q_4 . D) Q_5 .

Ans: C

9b. At which of the following price levels would a surplus occur?

- A) P_1 . B) P_2 . C) P_2 and P_3 . D) P_3 and P_4 .

Ans: D

9c. Given that equilibrium occurs at a price level of P_2 , then the desirable price level:

- A) Can be at any price level. C) Must be greater than P_2 .
B) Must be P_2 . D) Must be less than P_2 .

Ans: A

9d. If businesses experience higher costs for transporting goods because of an increased price for imported oil, the new equilibrium is likely to occur at:

- A) P_2 and Q_5 . B) P_1 and Q_2 . C) P_3 and Q_3 . D) P_1 and Q_5 .

Ans: C

10. Income and consumption (2 points each)

The following table shows a hypothetical relationship between consumption and income. Answer the indicated question(s) on the basis of this table.

Income and consumption data

<i>Disposable income</i> (\$ billions/year)	<i>Total consumption</i> (\$ billions/year)	<i>Savings</i> (\$ billions/year)
200	210	_____
300	300	_____

10a. What is the marginal propensity to consume?

- A) 0.67. B) 0.80. C) 0.85. D) 0.90.

Ans: D

10b. What is the marginal propensity to save?

- A) 0.10. B) 0.20. C) 0.25. D) 0.30.

Ans: A

10c. What is the multiplier?

- A) 6.67. B) 1.33. C) 9. D) 10.

Ans: D

10d. What is saving at an income of \$200 billion per year?

- A) +\$10 billion. B) +\$0 billion. C) -\$10 billion. D) +\$210 billion.

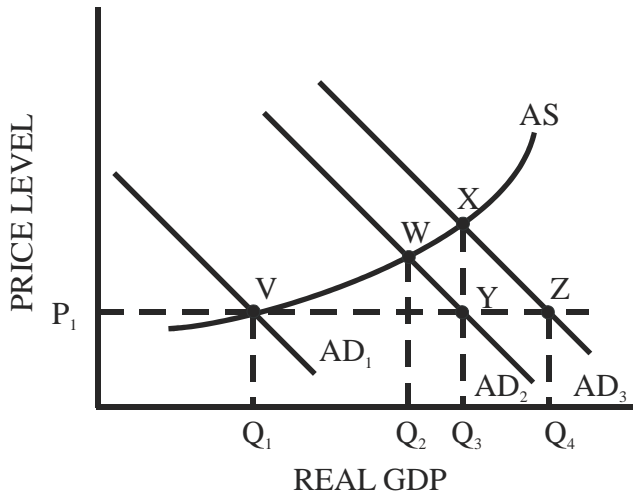
Ans: C

10e. What is saving at an income of \$300 billion per year?

- A) +\$10 billion. B) +\$0 billion. C) -\$10 billion. D) +\$210 billion.

Ans: B

11. Fiscal policy (2 points each)



- 11a. If Q_2 represents full employment, then a shift from AD_1 to:
- A) AD_2 will result in a full-employment equilibrium at point W .
 - B) AD_2 will close the GDP gap.
 - C) AD_3 will take the economy past full employment to an equilibrium at point X .
 - D) All of the above.
- Ans: D**
- 11b. Assume that Q_2 is full employment and the economy is in equilibrium at point V . A shift in aggregate demand to AD_2 would:
- A) Result in an equilibrium at point W .
 - B) Result in an equilibrium at point Y .
 - C) Reduce the GDP gap but would not close it.
 - D) Cause an AD shortfall.
- Ans: A**
- 11c. Which fiscal policy action would increase aggregate demand from AD_1 to AD_2 ?
- A) A decrease in transfer payments.
 - B) A decrease in taxes.
 - C) A decrease in government spending.
 - D) All of the above.
- Ans: B**
- 11d. Which of the following might decrease aggregate demand from AD_3 to AD_2 ?
- A) A decrease in consumer confidence.
 - B) An increase in taxes.
 - C) A decrease in government spending.
 - D) All of the above.
- Ans: D**

12. Money and banking (2 points each)

Use the following balance sheet for Bank of the Universe, which is one of many banks in a banking system.

Bank of the Universe balance sheet

<u>Assets</u>		<u>Liabilities</u>	
Total reserves	\$150,000	Transactions accounts	\$1,000,000
Loans outstanding	\$850,000		

12a. With a required reserve ratio of 12 percent, Bank of the Universe would have excess reserves of:
A) \$30,000. B) \$120,000. C) \$150,000. D) \$1,000,000.

Ans: A

12b. With a required reserve ratio of 15 percent, Bank of the Universe would have excess reserves of:
A) \$150,000. B) \$850,000. C) \$1,000,000. D) Zero.

Ans: D

12c. With a required reserve ratio of 10 percent, Bank of the Universe can make new loans in the amount of:
A) \$10,000. B) \$50,000. C) \$100,000. D) \$1,000,000.

Ans: B

12d. With a required reserve ratio of 8 percent, Bank of the Universe can make new loans in the amount of:
A) \$70,000. B) \$80,000. C) \$150,000. D) \$770,000.

Ans: A

13. Monetary policy (2 points each)

Answer the indicated questions on the basis of the information in the table below.

Monetary data

<u>Item</u>	<u>Amount</u>
Cash held by the public	\$100 billion
Transactions account balances	\$600 billion
Required reserves	\$72 billion
Excess reserves	\$0
U.S. Treasury bonds held by the public	\$500 billion

13a. The money multiplier is equal to:

- A) 16.7. B) 14.4. C) 10.0. D) 8.3.

Ans: D

13b. The level of total reserves is equal to:

- A) \$72 billion. B) \$100 billion. C) \$172 billion. D) \$772 billion.

Ans: A

13c. If the reserve requirement is 12 percent and the Fed sells \$20 billion worth of bonds in the open market, the lending capacity of the banking system will _____ by approximately _____.

- A) Rise; \$167 billion. B) Rise; \$240 billion. C) Fall; \$167 billion. D) Fall; \$240 billion.

Ans: C

14. International trade (2 points each)

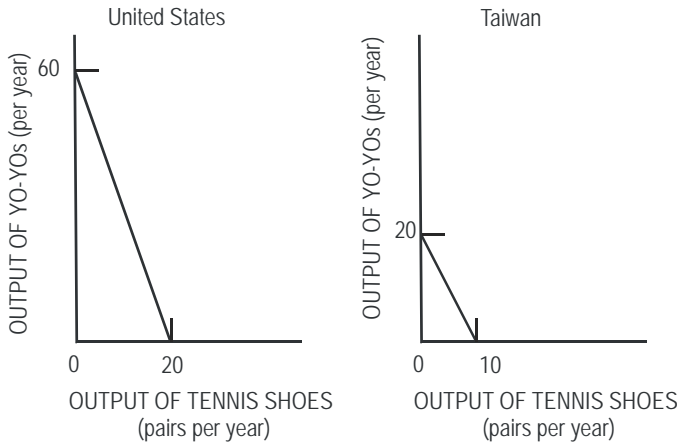
Assume Country A and Country B each have the same amount of resources with which to produce wheat and corn and they produce no other goods. The values in the table represent the maximum amount of each good that can be produced.

<u>Country</u>	<u>Bushels of corn</u>	<u>Bushels of wheat</u>
Country A	100	300
Country B	200	900

- 14a. The opportunity cost of producing 1 bushel of corn in Country B is:
A) $\frac{9}{2}$ of a bushel of wheat. C) $\frac{1}{3}$ of a bushel of wheat.
B) $\frac{1}{2}$ of a bushel of wheat. D) $\frac{2}{9}$ of a bushel of wheat.
Ans: A
- 14b. The opportunity cost of producing 1 bushel of wheat in Country A is:
A) $\frac{2}{9}$ of a bushel of corn. C) $\frac{1}{2}$ of a bushel of corn.
B) $\frac{1}{3}$ of a bushel of corn. D) 3 bushels of corn.
Ans: B
- 14c. It is clear that:
A) Country A has a comparative advantage in corn.
B) Country A has an absolute advantage in both goods.
C) Country B has a comparative advantage in corn.
D) Country A has an comparative advantage in wheat.
Ans: A
- 14d. The output of corn and wheat would be greatest if:
A) Both countries prohibited trade.
B) Country B specialized in producing corn, and Country A specialized in producing wheat.
C) Country A specialized in producing corn, and Country B specialized in producing wheat.
D) Country B produced both goods and exported them to Country A.
Ans: C
- 14e. For trade to be beneficial for both countries, the terms of trade should be such that 1 bushel of corn is exchanged for:
A) Zero bushels of wheat.
B) Less than 3 bushels of wheat.
C) More than $\frac{2}{9}$ of a bushel of wheat but less than $\frac{1}{3}$.
D) More than 3 bushels of wheat but less than $\frac{9}{2}$.
Ans: D

15. Gains from trade (2 points each)

Suppose the United States and Taiwan each produce only two goods and have the production possibilities shown in the figure below. Each country's output is measured in thousands of units per year. Use the figure to answer the question(s) below.



15a. Inspection of the production possibilities curves of both countries reveals that:

- A) The United States cannot benefit from trading with Taiwan.
- B) Taiwan has no comparative advantage.
- C) The United States has a comparative advantage in yo-yos.
- D) Taiwan has a comparative advantage in both goods.

Ans: C

15b. The opportunity cost of producing 1 pair of tennis shoes in the United States is:

- A) 1/3 of a yo-yo.
- B) 1/2 of a yo-yo.
- C) 2 yo-yos.
- D) 3 yo-yos.

Ans: D

15c. The opportunity cost of producing 1 yo-yo in Taiwan is:

- A) 1/3 of a pair of tennis shoes.
- B) 1/2 of a pair of tennis shoes.
- C) 2 pair of tennis shoes.
- D) 3 pair of tennis shoes.

Ans: B

16. Barriers to trade (8 points)

Through the use of a graph (or four), illustrate and clearly explain the impacts (how many imports, prices, quantity supplied and demanded) of tariffs, and then those of quotas. Be sure to start with the “no trade” and “free trade” equilibriums.

