

**UNIVERSITY OF OTTAWA
Department of Economics**

ECO1104 D - INTRODUCTION TO MICROECONOMICS

Final Examination

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Instructions: Please fill in your name and student number below and on the scan-tron sheet. Use the scan-tron sheet to answer the Multiple Choice questions. This exam has 17 pages—check that this copy has all of them. The allotted time is three hours. Good luck and Best of Holidays!

Student Name _____

Student Number _____

1. The adage, "There is no such thing as a free lunch," means
 - a. even people on welfare have to pay for food.
 - b. the cost of living is always increasing.
 - c. to get something we like, we usually have to give up another thing we like.
 - d. all costs are included in the price of a product.

2. M.P. Smart is trying to convince workers in her riding that trade with other countries is beneficial. M.P. Smart argues that trade can be beneficial
 - a. only if it allows us to obtain things that we couldn't make for ourselves.
 - b. because it allows specialization, which increases total output.
 - c. to us if we can gain and the others involved in the trade lose.
 - d. in only a limited number of circumstances because others are typically self-interested.

3. Production possibilities frontiers can shift outward if
 - a. government increases the amount of money in the economy.
 - b. there is an increase in technology.
 - c. resources can be moved from the production of one good to another.
 - d. Both b and c are correct.

Table 1

	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

4. **Refer to Table 1.** The opportunity cost of 1 unit of cheese in England is
 - a. 4 breads.
 - b. 2 breads.
 - c. 1/2 bread.
 - d. 1/4 bread.

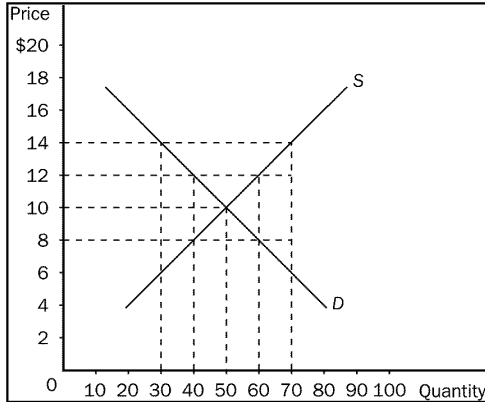
5. **Refer to Table 1.** England has an absolute advantage in
 - a. bread and Spain has an absolute advantage in cheese.
 - b. cheese and Spain has an absolute advantage in bread.
 - c. neither good and Spain has an absolute advantage in both goods.
 - d. both goods and Spain has an absolute advantage in neither good.

6. **Refer to Table 1.** If England and Spain trade based on the principle of comparative advantage, England will export
 - a. bread and Spain will export cheese.
 - b. bread and Spain will export bread.
 - c. cheese and Spain will export cheese.
 - d. cheese and Spain will export bread.

7. An economy's scarce resources are allocated by
 - a. economic planners.
 - b. producers who use resources.
 - c. prices for resources.
 - d. government regulation of scarce resources.

8. Suppose that a worker in Boatland can produce either 5 units of wheat or 25 units of fish per year, and a worker in Farmland can produce either 25 units of wheat or 5 units of fish per year. There are 10 workers in each country. Political pressure from the fish lobby in Farmland and the wheat lobby in Boatland has prevented trade between the two countries on the grounds that cheap imports would kill the fish industry in Farmland and the wheat industry in Boatland. As a result, Boatland produces and consumes 25 units of wheat and 125 units of fish per year while Farmland produces and consumes 125 units of wheat and 25 units of fish per year. If the political pressure were overcome and trade were to occur, each country would completely specialize in the product for which it has a comparative advantage. If trade were to occur, by how much would the combined output of the two countries increase?
- 25 wheat and 25 fish.
 - 50 wheat and 50 fish.
 - 75 wheat and 75 fish.
 - 100 wheat and 100 fish.
9. Each of the following are determinants of demand EXCEPT
- tastes.
 - technology.
 - income.
 - the price of related goods.
10. Currently you purchase 6 packages of hot dogs a month. You will be graduating in December and will start your new job January 2nd. You have no plans to purchase hot dogs in January. For you, hot dogs are
- a "college-only" good.
 - a normal good.
 - an inferior good.
 - a consumer good.
11. If buyers now wanted to purchase larger quantities of Vanilla Coke at any price,
- the demand curve for Vanilla Coke would shift to the left.
 - we would move down the demand curve for Vanilla Coke.
 - the demand curve for Vanilla Coke would shift to the right.
 - we would move up the demand curve for Vanilla Coke.
12. If the number of sellers in a market increases, the
- demand in that market will increase.
 - supply in that market will increase.
 - supply in that market will decrease.
 - demand in that market will decrease.
13. In general, elasticity is
- the friction that develops between buyers and sellers in a market.
 - a measure of how much government intervention is prevalent in a market.
 - a measure of how competitive a market is.
 - a measure of how much buyers and sellers respond to changes in market conditions.

Figure 1



14. **Refer to Figure 2.** In this market, equilibrium price and quantity would be
- \$14 and 70.
 - \$12 and 40.
 - \$10 and 50.
 - \$8 and 50.
15. **Refer to Figure 1.** If price in this market is currently \$14, there would be a
- shortage of 20 units and price would tend to rise.
 - surplus of 20 units and price would tend to fall.
 - shortage of 40 units and price would tend to rise.
 - surplus of 40 units and price would tend to fall.
16. Demand is said to be inelastic if the
- quantity demanded changes proportionately more than price.
 - price changes proportionately more than income.
 - quantity demanded changes proportionately less than price.
 - quantity demanded changes proportionately the same as price.
17. A key determinant of the elasticity of supply is
- the ability of sellers to change the price of the good they produce.
 - the number of firms in the market.
 - how responsive buyers are to changes in sellers' prices.
 - the ability of sellers to change the amount of the good they produce.
18. Economists generally hold that rent control is
- an efficient and equitable way to help the poor.
 - not efficient, but the best way to solve a serious social problem.
 - a highly inefficient way to help the poor raise their standard of living.
 - an efficient way to allocate housing, but not a good way to help the poor.
19. The equilibrium wages of teenagers tend to be
- low because teenagers are among the least skilled and least experienced workers.
 - high because teenagers are among the strongest and most energetic workers.
 - low because most teenagers live at home and do not require high wages.
 - high because teenagers tend to join unions.

Figure 2

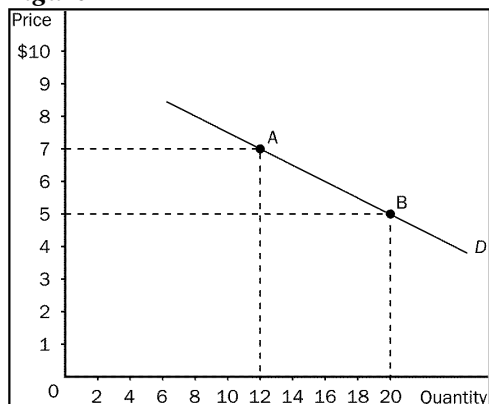
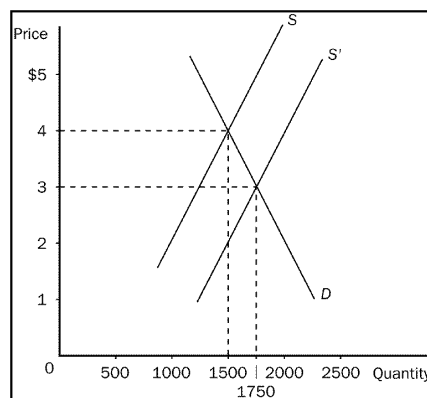


Figure 3



20. Refer to Figure 2. Between point A and point B on the graph, the elasticity of demand is
- perfectly elastic.
 - inelastic.
 - unit elastic.
 - elastic.
21. Refer to Figure 3. When a new, more productive strawberry was developed which caused supply to increase, strawberry farmers were
- helped, since although price fell, total revenue increased, due to an inelastic demand curve.
 - hurt, since both price and total revenue fell due to an elastic demand curve.
 - hurt, since both price and total revenue fell due to an inelastic demand curve.
 - helped, since although price fell, total revenue increased, due to an elastic demand curve.
22. A tax placed on the seller of a good
- raises the price buyers pay and lowers the price sellers receive.
 - lowers the price buyers pay and raises the price sellers receive.
 - raises both the price buyers pay and the price sellers receive.
 - lowers both the price buyers pay and the price sellers receive.
23. A tax placed on the sellers of blueberries
- increases costs, lowers profit and shifts supply to the left (upward).
 - increases costs, lowers profit and shifts supply to the right (downward).
 - reduces costs, raises profit and shifts supply to the left (upward).
 - increases costs, lowers profit and causes a movement along the supply curve.
24. Which of the following is the most correct statement about tax burdens?
- A tax burden falls most heavily on the side of the market that is more elastic.
 - A tax burden falls most heavily on the side of the market that is more inelastic.
 - A tax burden falls most heavily on the side who is taxed.
 - A tax burden is distributed independently of relative elasticities of supply and demand.
25. Welfare economics is the study of
- the well-being of less fortunate people.
 - welfare programs in Canada.
 - the effect of income redistribution on work effort.
 - how the allocation of resources affects economic well-being.

26. If a consumer is willing and able to pay \$20.00 for a particular good but only has to pay \$14.00, the consumer surplus is
- \$6.00.
 - \$14.00.
 - \$20.00.
 - \$34.00.
27. When technology improves in the ice cream industry, consumer surplus will
- increase.
 - decrease.
 - not change, since technology affects suppliers and not consumers.
 - increase, then decrease.
28. Donald produces nails at a cost of \$200 per ton. If he sells the nails for \$500 per ton, his producer surplus is
- \$200 per ton.
 - \$300 per ton.
 - \$500 per ton.
 - \$700 per ton.

Figure 4

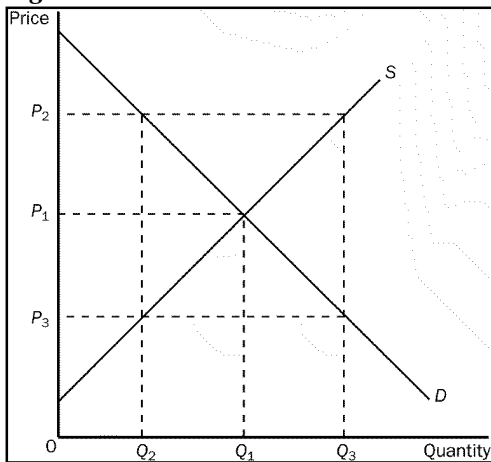
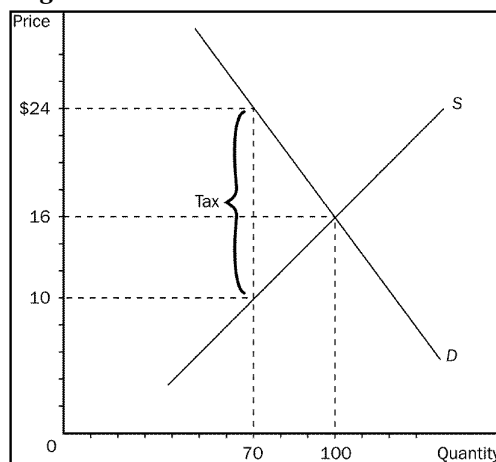


Figure 5

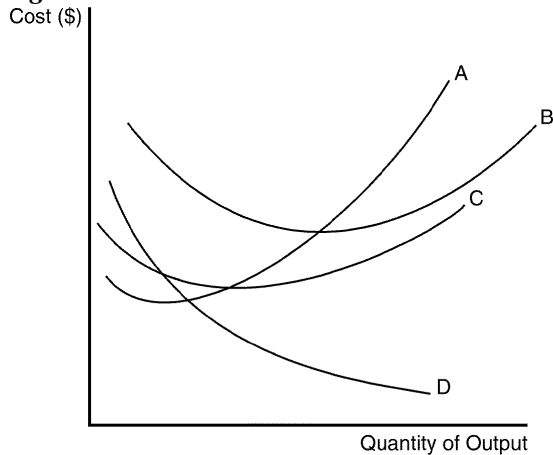


29. **Refer to Figure 4.** At the quantity Q_2 ,
- the market is in equilibrium.
 - the value to buyers is greater than the cost to sellers.
 - consumer surplus plus producer surplus is maximized.
 - the value to buyers is less than the cost to sellers.
30. **Refer to Figure 5.** The per unit burden of the tax on buyers is
- \$16.
 - \$14.
 - \$8.
 - \$6.
31. Inefficiency exists in any economy when a good is
- not being consumed by buyers who value it most highly.
 - not distributed fairly among buyers.
 - not being produced by the highest-cost producer.
 - being produced with less than all available resources.

32. If the labour supply curve is nearly vertical, a tax on labour
- has a large deadweight loss.
 - will raise small amounts of tax revenue.
 - has little impact on the amount of work workers are willing to do.
 - Both b and c are correct.
33. Which of the following ideas is the most plausible?
- Reducing a high tax rate is less likely to increase tax revenue than reducing a low tax rate.
 - Reducing a high tax rate is more likely to increase tax revenue than reducing a low tax rate.
 - Reducing a high tax rate will have the same effect on tax revenue as reducing a low tax rate.
 - Reducing a tax rate can never increase tax revenue.
34. In the absence of externalities the invisible hand of the marketplace
- is in the consumer's wallet.
 - is unable to resolve inherent inefficiencies in the market system.
 - induces people to act in a manner inconsistent with self interest.
 - leads to a market outcome that maximizes total benefit to society.
35. Suppose that a steel factory emits a certain amount of air pollution, which constitutes a negative externality. The social cost of producing the steel includes the
- private costs of the steel producers and the price consumers pay for the steel.
 - private costs of the steel producers and the costs to the bystanders affected by the pollution.
 - costs to the bystanders effected by the pollution only.
 - price consumers pay for the steel.
36. When a market experiences a positive externality,
- the demand curve does not reflect the value to society of the good.
 - too much of the good is being produced.
 - the government can internalize the externality by imposing a tax on the product.
 - the private value is greater than the social value.
37. Since almost all forms of transportation produce some type of pollution
- the government should ban all transportation.
 - society has to weigh the cost and benefits and decide how much pollution to allow.
 - corporations should voluntarily reduce pollution levels with new car models.
 - the government should tax the types of transportation that pollute most to eliminate it altogether.
38. Pigovian taxes are preferred over regulations to deal with pollution because Pigovian taxes
- reduce pollution at a lower cost to society.
 - raise revenue and reduce pollution simultaneously, although efficiency is reduced.
 - obtain faster results than regulations.
 - allow for an accurate monitoring of pollution levels.
39. Pigovian taxes differ from most taxes in that Pigovian taxes
- enhance economic efficiency.
 - do not raise revenue from the government.
 - cause deadweight loss.
 - cannot be divided between the buyer and seller.

40. In an economy, when goods do not have a price, what/who primarily ensures that the good is produced?
- entrepreneurs
 - the government
 - charities
 - nature
41. Which of the following is NOT a reason why government agencies subsidize basic research?
- The private market devotes too few resources to basic research.
 - The general knowledge developed through basic research can be used without charge.
 - The social benefit of additional knowledge is perceived to be greater than the cost of subsidies.
 - The government attempts to attract the best and the brightest researchers.
42. Once it becomes obvious that a common resource is being overused,
- market forces cause the use of the resource to shift to a sustainable level.
 - society voluntarily limits its use of the good.
 - it continues to be overused because individuals have no incentive to reduce their use of the good.
 - the good becomes a natural monopoly.
43. Which of the following expressions is correct?
- accounting profit = total revenue - explicit costs.
 - economic profit = total revenue - total opportunity costs.
 - economic profit = total revenue - explicit costs - implicit costs.
 - All of the above are correct.
44. Susan used to work as a telemarketer, earning \$25,000 per year. She gave up that job to start a catering business. In calculating the economic profit of her catering business, the \$25,000 income that she gave up is counted as part of the catering firm's
- total revenue.
 - opportunity costs.
 - explicit costs.
 - All of the above are correct.
45. One would expect to observe diminishing marginal product of labour when
- crowded office space reduces the productivity of new workers.
 - workers are discouraged about the lack of help from other workers.
 - only new workers are trained in using the most productive capital.
 - union workers are told to reduce their work effort in preparation for a new round of collective bargaining talks.
46. For a construction company that builds houses, which of the following costs would be a fixed cost?
- the \$50,000 per year salary paid to a construction foreman
 - the \$30,000 per year salary paid to the company's bookkeeper
 - the \$10,000 per year premium paid to an insurance company
 - All of the above are correct.
47. Marginal cost increases as the quantity of output increases. This reflects the property of
- increasing total cost.
 - diminishing total cost.
 - increasing marginal product.
 - diminishing marginal product.

Figure 6



48. **Refer to Figure 6.** Which of the curves is most likely to represent marginal cost?
- A
 - B
 - C
 - D
49. **Refer to Figure 6.** This particular firm is necessarily experiencing diminishing marginal product when curve
- A is rising.
 - B is rising.
 - C is rising.
- (i) only
 - (iii) only
 - (i) and (ii)
 - (i), (ii), and (iii)
50. The firm's efficient scale is the quantity of output that minimizes
- average total cost.
 - average fixed cost.
 - average variable cost.
 - marginal cost.
51. In the long run, a firm that produces and sells computers gets to choose
- how many workers to hire.
 - the size of its factories.
 - which short-run average-total-cost curve to use.
 - All of the above are correct.
52. When a firm has little ability to influence market prices it is said to be in what kind of a market?
- a competitive market
 - a strategic market
 - a thin market
 - a power market

53. In a competitive market,
- each seller can sell all he wants to sell at the going price.
 - buyers and sellers are price takers.
 - the goods offered by the different sellers are largely the same.
 - All of the above are correct.
54. When price is greater than marginal cost for a firm in a competitive market,
- marginal cost must be falling.
 - the firm must be minimizing its losses.
 - there are opportunities to increase profit by increasing production.
 - the firm should decrease output to maximize profit.
55. The irrelevance of sunk costs is best described by which of the following business decisions?
- New airlines enter the market and earn profits.
 - Airlines continue to sell tickets even though they are reporting large losses.
 - Airlines exit the market when they report losses.
 - All of the above are correct.
56. A profit-maximizing firm in a competitive market is able to sell its product for \$9. At its current level of output the firm's average total cost is \$11. Its marginal cost curve crosses the marginal revenue curve at an output level of 10 units. Then the firm experiences a
- profit of more than \$20.
 - profit of exactly \$20.
 - loss of more than \$20.
 - loss of exactly \$20.
57. At the profit-maximizing level of output,
- marginal revenue = average total cost.
 - marginal revenue = average variable cost.
 - marginal revenue = marginal cost.
 - average revenue = average total cost.
58. When new firms have an incentive to enter a competitive market, their entry will
- increase the price of the product.
 - drive down profits of existing firms in the market.
 - shift the market supply curve to the left.
 - All of the above are correct.
59. The exit of existing firms from a competitive market will
- increase market supply and increase market prices.
 - increase market supply and decrease market prices.
 - decrease market supply and increase market prices.
 - decrease market supply and decrease market prices.
60. In a particular market, there are 500 firms. Each firm has a marginal cost of \$30 when it produces 200 units of output. One point on the market supply curve is
- (Quantity = 200, Price = \$30).
 - (Quantity = 500, Price = \$30).
 - (Quantity = 100,000, Price = \$30).
 - (Quantity = 100,000, Price = \$15,000).

61. A firm in a competitive market has the following cost structure:

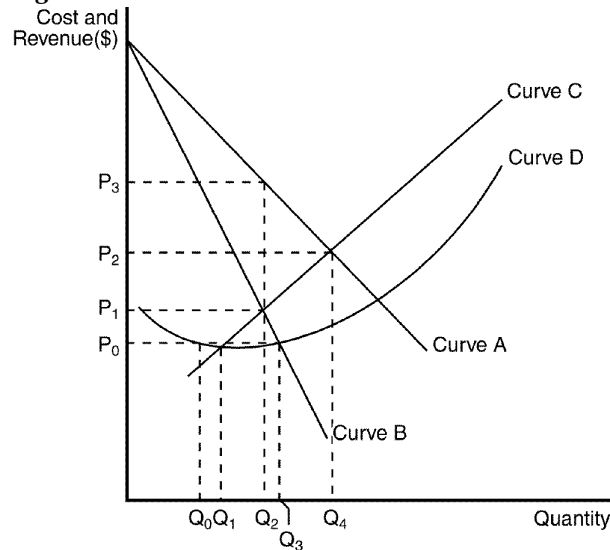
Output	Total Cost
0	\$5
1	\$10
2	\$12
3	\$15
4	\$24
5	\$40

This firm will shut down

- if price falls below \$3.33 and exit if it falls below \$5.
 - if price falls below \$5 and exit if it falls below \$3.33.
 - if price falls below \$7 and exit if it falls below \$10.
 - and exit if price falls below \$5.
62. In the long-run equilibrium of a market with free entry and exit, marginal firms are operating
- at the point where average total cost equals marginal cost.
 - at the minimum point on their average total cost curves.
 - at their efficient scale.
 - All of the above are correct.
63. Patent and copyright laws are major sources of
- natural monopolies.
 - government-created monopolies.
 - resource monopolies.
 - None of the above are correct.
64. The fundamental cause of monopoly is
- incompetent management in competitive firms.
 - the zero-profit feature of long-run equilibrium in competitive markets.
 - advertising.
 - barriers to entry.
65. For a profit-maximizing monopolist,
- $P > MR = MC$.
 - $P = MR = MC$.
 - $P > MR > MC$.
 - $MR < MC < P$.
66. When a monopolist increases the amount of output that it produces and sells, its average revenue
- increases and its marginal revenue increases.
 - increases and its marginal revenue decreases.
 - decreases and its marginal revenue increases.
 - decreases and its marginal revenue decreases.
67. A monopoly firm can sell 150 units of output for \$12.00 per unit. Alternatively, it can sell 151 units of output for \$11.95 per unit. The marginal revenue of the 151st unit of output is
- \$11.95.
 - \$4.45.
 - \$4.45.
 - \$11.95.

The figure below reflects the cost and revenue structure for a monopoly firm.

Figure 7



68. Refer to Figure 7. The demand curve for a monopoly firm is depicted by curve
- A
 - B
 - C
 - D
69. Refer to Figure 7. The profit maximizing quantity is
- Q_1
 - Q_2
 - Q_3
 - Q_4
70. Refer to Figure 7. At the profit maximizing quantity, the price is
- P_1
 - P_2
 - P_3
 - P_0
71. When regulators use a marginal cost pricing strategy to regulate a natural monopoly, the regulated monopoly
- will experience a loss.
 - will experience a price below average total cost.
 - may rely on a government subsidy to remain in business.
 - All of the above are correct.
72. Which of the following is the most likely reason the city council in Toronto consistently denies licenses to independent van drivers selling rides to the public?
- Allowing the vans to operate would reduce social welfare.
 - The van drivers engage in price discrimination.
 - Allowing the vans to operate would allow them to unfairly take advantage of poor residents.
 - The vans are a threat to the public transit monopoly, which makes campaign contributions to the city council members.

73. For maximum profit, a firm hires labour up to the point at which the wage equals
- (i) the value of the marginal product of labour.
 - (ii) the marginal cost of an additional unit of output.
 - (iii) output price times marginal product of labour.
- a. (i) and (ii)
 - b. (i) and (iii)
 - c. (ii) and (iii)
 - d. All of the above are correct.
74. The labour supply curve reflects how
- a. workers' decisions about the labour-leisure tradeoff respond to a change in the wage.
 - b. workers' decisions about the opportunity cost of labour response to a change in the quantity of labour supplied.
 - c. firms' decisions about the labour-leisure tradeoff respond to the quantity of labour demanded.
 - d. firms' decisions about how the quantity of labour they hire responds to changes in their opportunities to earn profits.
75. When firms are able to increase the amount of physical capital available to workers, the
- a. marginal product of labour will decrease.
 - b. value of the marginal product of labour will decrease.
 - c. value of the marginal product of labour will increase.
 - d. final product price will increase.
76. Both theory and history point to a close relationship between increases in
- a. labour demand and increases in labour supply.
 - b. labour demand and decreases in real wages.
 - c. the productivity of labour and increases in real wages.
 - d. interest rates and decreases in real wages.
77. "The firm hires the factor up to the point where the value of the factor's marginal product is equal to the factor's price." This statement applies to which factor of production?
- a. labour
 - b. land
 - c. capital
 - d. All of the above are correct.
78. During the 1980s and 1990s Canada experienced a significant inflow of capital from other countries. As a result, the rental price of capital in Canada
- a. increased and the quantity of capital in use increased.
 - b. increased and the quantity of capital in use decreased.
 - c. decreased and the quantity of capital in use increased.
 - d. decreased and the quantity of capital in use decreased.
79. During the 1980s and 1990s Canada experienced a significant inflow of capital from other countries. As a result, the average wage paid to Canadian workers
- a. increased.
 - b. decreased.
 - c. stayed the same.
 - d. became more efficient.

80. The Asian Development Bank has been investing in education and training programs in the developing economies of Asia over the last five years. As a result of this investment, economists who adhere to the human capital view of education would predict
- rising wages as labour productivity is enhanced.
 - falling wages as the labour market is saturated with too many educated workers.
 - the marginal productivity of capital would not be affected.
 - the marginal productivity of labour would not be affected.
81. Economists who attempt to explain the increasing earnings gap between skilled and unskilled workers offer two main hypotheses. Both hypotheses
- suggest that demand-and-supply conditions have played a less important role in determining workers' wages in recent years.
 - suggest that, over time, the demand for skilled labour has risen relative to the demand for unskilled labour.
 - emphasize the growing importance of international trade in recent years.
 - emphasize the growing importance of women and teenagers in the workforce in recent years.
82. Economists who study economic mobility have found that the income of a grandfather and his grandson's income are
- not related.
 - negatively related.
 - directly related.
 - exactly equal.

Short-Answer Questions (23 points)

Answer in the space provided.

83. (3 points) Many anti-poverty groups use LICO as a measure of poverty. What are the limits of this measure?

84. (5 points) Consider total cost and total revenue given in the table below:

Quantity	Total Cost (\$)	Total Revenue (\$)
0	4	0
1	6	5
2	9	10
3	15	15
4	22	20
5	30	25
6	39	30

(a) Calculate marginal revenue and marginal cost for each quantity.

(b) How much should the firm produce to maximize profit?

(c) Can you tell whether this firm is in a competitive industry?

(d) Can you tell whether the industry is in a long-run equilibrium?

85. (15 points) The Feelgood Drug Company holds a patent on one of its discoveries.

(a) Assuming that the production of the drug involves rising marginal cost, draw a diagram to illustrate Feelgood's profit maximizing price and quantity. Also show Feelgood's profits.

(b) Now, suppose the government imposes a tax on each bottle of the drug produced. On a new diagram, illustrate Feelgood's new price and quantity. How does each compare to your answer in part (a)?

(c) What is the impact of this tax on welfare? Explain.

(d) Instead of the tax per bottle, suppose that the government imposes a tax on Feelgood of \$10 million regardless of how many bottles are produced. How does this tax affect Feelgood's price, quantity, and profits? Explain.