

**UNIVERSITY OF OTTAWA  
Department of Economics**

**ECO1104D - INTRODUCTION TO MICROECONOMICS**

**Final Examination**

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Fall 2007

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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 eighteen pages—check that this copy has all of them. The allotted time is three hours. Good luck and Best of Holidays!**

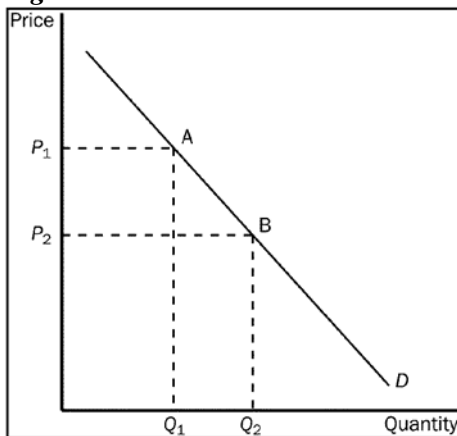
**Student Name** \_\_\_\_\_

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1. By scientific method we mean:
  - a. The use of modern electronic testing equipment to understand the world.
  - b. The dispassionate development and testing of theories about how the world works.
  - c. The use of controlled experiments in understanding the way the world works.
  - d. Finding evidence to support preconceived theories about how the world works.
  
2. On a production possibilities frontier, production is said to be efficient if the production point is:
  - a. on the frontier.
  - b. outside the frontier.
  - c. on or inside the frontier.
  - d. inside the frontier.
  
3. Which of the following statements is NOT correct?
  - a. Trade allows for specialization.
  - b. Trade can lead to higher living standards
  - c. Trade is based on absolute advantage.
  - d. Trade allows individuals to consume outside of their individual production possibilities curve.
  
4. Suppose a gardener produces both green beans and corn in her garden. If she must give up 13 bushels of corn in order to get 5 bushels of green beans, then the opportunity cost of 1 bushel of green beans is:
  - a. 0.38 bushel of corn.
  - b. 2.6 bushels of corn.
  - c. 8 bushels of corn.
  - d. 18 bushels of corn.
  
5. If Shawn can produce doughnuts at a lower opportunity cost than Sue, then:
  - a. Shawn has a comparative advantage in the production of doughnuts.
  - b. Sue has a comparative advantage in the production of doughnuts.
  - c. Shawn should be retrained and produce a different product.
  - d. it is obvious that Shawn is capable of producing more doughnuts than Sue.
  
6. Belarus has a comparative advantage in the production of linen, but Russia has an absolute advantage in the production of linen. If these two countries decide to trade:
  - a. Belarus should export linen to Russia.
  - b. Russia should export linen to Belarus.
  - c. For these two countries, trading linen would be a "stand-off" so they should trade another product.
  - d. Without additional information about Russia, this question cannot be answered.
  
7. Which of the following would NOT be a determinant of demand?
  - a. the price of related goods
  - b. Income
  - c. Tastes
  - d. the prices of the inputs used to produce the good

8. An example of an inferior good might be:
  - a. neckties.
  - b. Ramen noodles.
  - c. cloth napkins.
  - d. cut flowers.
  
9. Two goods are substitutes if a decrease in the price of one good:
  - a. increases the demand for the other good.
  - b. reduces the demand for the other good.
  - c. reduces the quality demanded of the other good.
  - d. increases the quantity demanded of the other good.
  
10. Alyssa rents 5 movies per month when the price is \$3.00 each and 7 movies per month when the price is \$2.50. Alyssa has demonstrated the :
  - a. law of price.
  - b. law of supply.
  - c. actions of an irrational consumer.
  - d. law of demand.
  
11. Holding all else constant, a higher price for ski lift tickets would be expected to:
  - a. Increase the number of skiers.
  - b. decrease the supply of ski resorts.
  - c. decrease the demand for other winter recreational activities.
  - d. decrease ski sales.

**Figure 1**



12. **Refer to Figure 1.** The movement from point A to point B on the graph would be caused by:
  - a. an increase in price.
  - b. a decrease in price.
  - c. a decrease in the price of a substitute good.
  - d. an increase in income.

**Table 1**

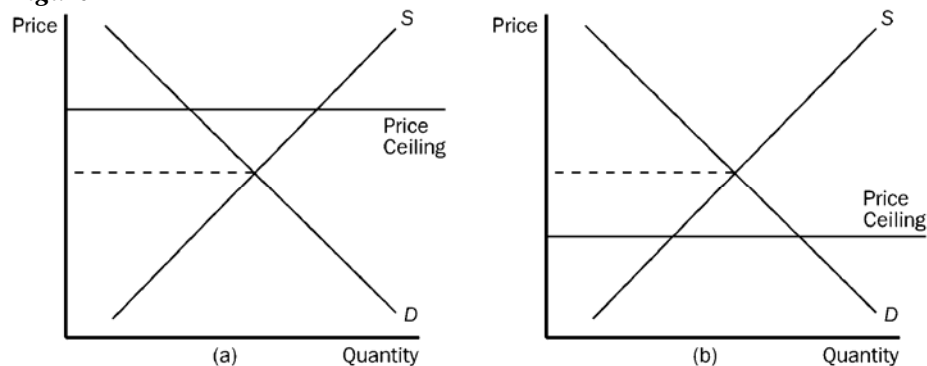
The table shows individual demand schedules for a market.

<b>Price of the Good</b>	<b>Aaron</b>	<b>Angela</b>	<b>Austin</b>	<b>Alyssa</b>
\$0.00	20	16	10	8
0.50	18	12	6	6
1.00	14	10	2	5
1.50	12	8	0	4
2.00	6	6	0	2
2.50	0	4	0	0

13. **Refer to Table 1.** When the price of the good is \$1.00, the quantity demanded in this market would be
  - a. 42 units.
  - b. 31 units.
  - c. 24 units.
  - d. 14 units.
  
14. Suppose that scientists find evidence that proves chocolate pudding lowers the cholesterol level of your blood. We would expect to see:
  - a. no change in the demand for chocolate pudding.
  - b. a decrease in the demand for chocolate pudding.
  - c. an increase in the demand for chocolate pudding.
  - d. a decrease in the supply of chocolate pudding.
  
15. Lead is an important input in the production of crystal. If the price of lead decreases, all else equal, we would expect the supply of:
  - a. crystal to be unaffected.
  - b. crystal to decrease.
  - c. crystal to increase.
  - d. lead to increase.
  
16. When quantity demanded responds only slightly to changes in price, demand is said to be:
  - a. unit elastic.
  - b. elastic.
  - c. inelastic.
  - d. perfectly inelastic.
  
17. If a good is a necessity, demand for the good would tend to be:
  - a. elastic.
  - b. horizontal.
  - c. unit elastic.
  - d. inelastic.
  
18. A person who has high cholesterol and must exercise an hour every day has what type of demand for exercise equipment?
  - a. Elastic
  - b. unit elastic
  - c. Inelastic
  - d. Weak

19. Holding all other forces constant, when the price of gasoline rises, the number of gallons of gasoline demanded would fall substantially over a ten-year period because:
- buyers tend to be much less sensitive to a change in price when given more time to react.
  - buyers will have substantially more income over a ten-year period.
  - buyers tend to be much more sensitive to a change in price when given more time to react.
  - None of these answers are correct.
20. Which of the following is NOT a determinant of the price elasticity of demand for a product?
- Time
  - Price
  - market definition
  - Substitutes
21. Suppose there is a 6 percent increase in the price of good X and a resulting 6 percent decrease in the quantity of X demanded. The price elasticity of demand for X is:
- 1.
  - 6.
  - 0.
  - infinite.
22. When the price of kittens was \$25 each, the pet shop sold 20 per month. When they raised the price to \$35 each, they sold 14 per month. The price elasticity of demand for kittens would be (using the midpoint method):
- 1.66.
  - 1.06.
  - 0.94.
  - 0.60.
23. A perfectly elastic demand curve will be:
- vertical.
  - horizontal.
  - downward sloping to the right.
  - upward sloping to the right.

**Figure 2**

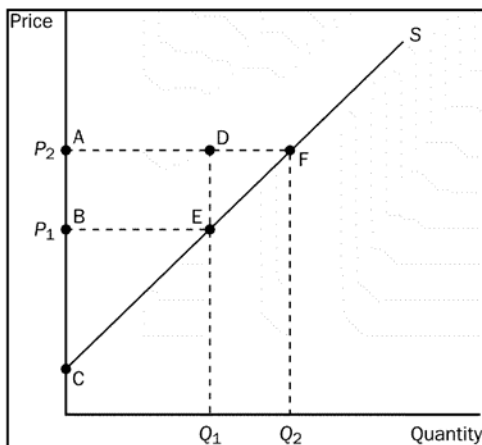


24. Refer to Figure 2. A binding price ceiling is shown in:
- panel (a).
  - panel (b).
  - both panel (a) and panel (b).
  - neither panel (a) nor panel (b).

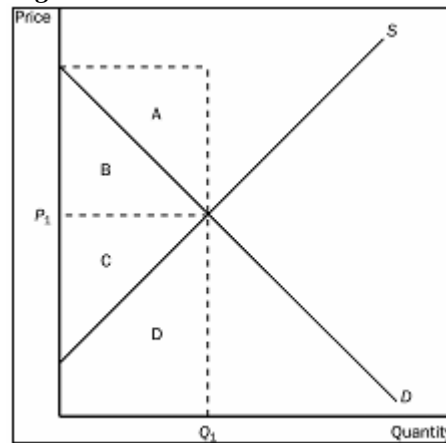
25. **Refer to Figure 2.** In which panel(s) in the figure shown would there be a shortage for CDs at the ceiling price?
- panel (a)
  - panel (b)
  - panel (a) and panel (b)
  - neither panel (a) nor panel (b)
26. Complete the following sentence. Price ceilings and price floors:
- are desirable because they make markets more efficient as well as equitable.
  - cause surpluses and shortages to persist, since price cannot adjust to the market equilibrium price.
  - can be enacted to restore a market to equilibrium.
  - are imposed because they can make the poor in the economy better off without causing adverse effects.
27. The minimum wage is an example of:
- A price ceiling.
  - A price floor.
  - A free-market process.
  - an efficient labor allocation mechanism.
28. In general, advocates of the minimum wage:
- believe that there are no adverse effects of minimum-wage laws.
  - believe that adverse effects are small, and generally a higher minimum wage makes the poor better off.
  - believe that the minimum wage is the answer to society's economic problems.
  - are socialists who want to replace the market system with central economic planning.
29. Which of the following is NOT a function of prices in a market system?
- Prices have the crucial job of balancing supply and demand.
  - Prices send signals to buyers and sellers to help them make rational economic decisions.
  - Prices coordinate economic activity.
  - Prices make an equitable distribution of goods and services among consumers possible.
30. A tax on the buyers of popcorn:
- increases the size of the popcorn market.
  - reduces the size of the popcorn market.
  - has no effect on the size of the popcorn market.
  - may increase, decrease, or have no effect on the size of the popcorn market.
31. Which is the most correct statement about the burden of a tax imposed on buyers of sugar?
- Buyers bear the entire burden of the tax.
  - Sellers bear the entire burden of the tax.
  - Buyers and sellers share the burden of the tax.
  - The government bears the entire burden of the tax.
32. The equilibrium price and quantity generated by supply and demand in a market:
- maximizes the profits of producers.
  - can only be achieved with government intervention.
  - produces both an efficient and equitable market outcome.
  - maximizes the total benefits and total surplus received by buyers and sellers.

33. Shannon buys a new CD player for her car for \$135. She receives consumer surplus of \$25 on her purchase. Her willingness to pay is:
- \$25.
  - \$110.
  - \$135.
  - \$160.
34. If you pay a price exactly equal to your willingness to pay, then:
- your consumer surplus is negative.
  - your willingness to pay is less than your consumer surplus.
  - your consumer surplus is zero.
  - you place little value on the good.

**Figure 3**



**Figure 4**



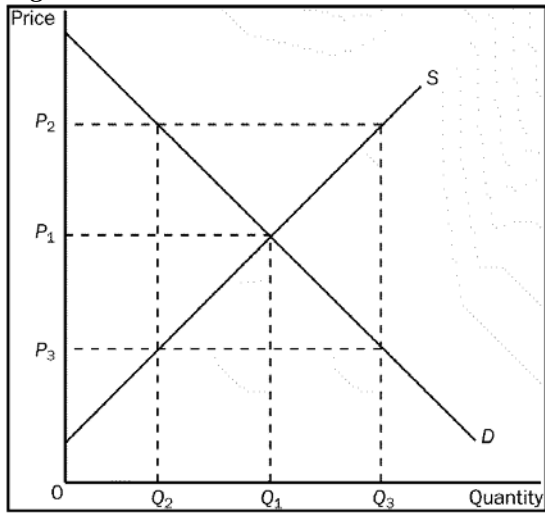
35. **Refer to Figure 3.** Which area represents producer surplus at a price of  $P_1$ ?
- BCE
  - ACF
  - ABED
  - DEF
  - AFEB
36. **Refer to Figure 4.** What area represents total surplus in the market when the price is  $P_1$ ?
- A + B
  - B + C
  - C + D
  - A + B + C + D
37. Producer surplus measures all of the following EXCEPT the:
- amount sellers receive above the minimum they would accept.
  - benefit to sellers of participating in a market.
  - amount sellers are paid less the amount they were willing to accept.
  - total value of a good to sellers.

**Table 2**

PRICE	QUANTITY DEMANDED	QUANTITY SUPPLIED
\$12.00	0	12
\$10.00	4	10
\$ 8.00	8	8
\$ 6.00	12	6
\$ 4.00	16	4
\$ 2.00	20	2

38. **Refer to Table 2.** At a price of \$4.00, total surplus would be
- More than it would be at the equilibrium price.
  - less than it would be at the equilibrium price.
  - the same as it would be at the equilibrium price.
  - There is insufficient information to say.

**Figure 5**



39. **Refer to Figure 5.** 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.
40. An example of an implicit cost of production would be:
- The income an entrepreneur could have earned working for someone else.
  - The cost of raw materials for producing bread in a bakery.
  - The cost of a delivery truck in a business that rarely makes deliveries.
  - All of the above are correct.
41. Economic profit is equal to:
- total revenue minus the explicit cost of producing goods and services.
  - total revenue minus the opportunity cost of producing goods and services.
  - total revenue minus the accounting cost of producing goods and services.
  - average revenue minus the average cost of producing the last unit of a good or service.

42. When a firm is making a profit-maximizing production decision, which of the following basic principles of economics is likely to be most important to the firm's decision?
- The cost of something is what you give up to get it.
  - A country's standard of living depends on its ability to produce goods and services.
  - Prices rise when the government prints too much money.
  - Governments can sometimes improve market outcomes.
43. The marginal product of labour is equal to the:
- incremental cost associated with a one unit increase in labour input.
  - incremental profit associated with a one unit increase in labour input.
  - increase in labour necessary to generate a one unit increase in output.
  - increase in output obtained from a one unit increase in labour input
44. 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.
45. A total-cost curve shows the relationship between the:
- quantity of an input used and the total cost of production.
  - quantity of output produced and the total cost of production.
  - total cost of production and profit.
  - total cost of production and total revenue.
46. If a firm produces nothing, which of the following costs will be zero?
- total cost
  - fixed cost
  - opportunity cost
  - variable cost
47. Average total cost tells us the:
- average product of labour, if total cost is divided evenly over all the units produced.
  - cost of a typical unit of output, if total cost is divided evenly over all the units produced.
  - cost of the last unit of output, if total cost does not include a fixed cost component.
  - variable cost of a firm that is producing at least one unit of output.

***Scenario 1***

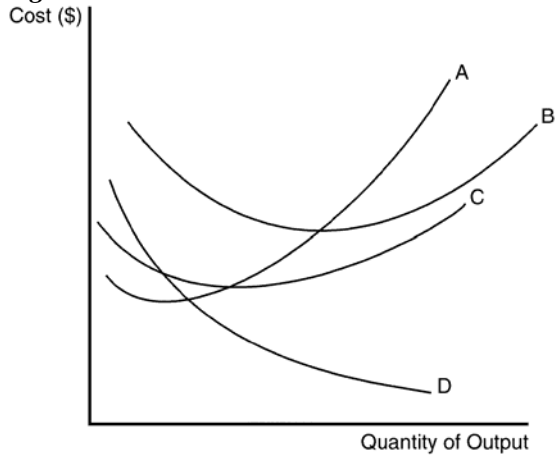
For the following questions, assume that a given firm experiences decreasing marginal product of labour with the addition of each worker regardless of the current output level.

48. **Refer to Scenario 1.** Marginal cost will be:
- always rising.
  - always falling.
  - U-shaped.
  - constant.

49. When marginal cost exceeds average total cost,
- average fixed cost must be rising.
  - average total cost must be rising.
  - average total cost must be falling.
  - marginal cost must be falling.

The curve below reflect information about the cost structure of a firm.

**Figure 6**



50. **Refer to Figure 6.** Which of the curves is most likely to represent average variable cost?
- A
  - B
  - C
  - D
51. When a firm is able to put idle equipment to use by hiring another worker,
- variable costs will rise.
  - variable costs will fall.
  - fixed costs will fall.
  - fixed costs and variable costs will rise.
52. Complete the following sentence. In the long run,
- inputs that were fixed in the short run remain fixed.
  - inputs that were fixed in the short run become variable.
  - inputs that were variable in the short run become fixed.
  - variable inputs are rarely used.
53. When firms are said to be price takers, it implies that if a firm raises its price,
- buyers will go elsewhere.
  - buyers will pay the higher price in the short run.
  - competitors will also raise their prices.
  - firms in the industry will exercise market power.

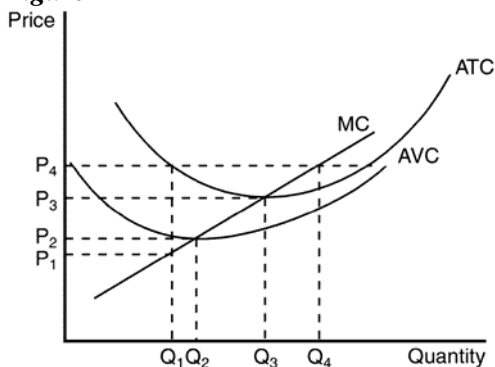
54. Complete the following sentence. In a competitive market,
- no single buyer or seller can influence the price of the product.
  - there is a small number of sellers.
  - the goods offered by the different sellers are markedly different.
  - All of the above are correct.
55. If a competitive firm is (i) selling 1,000 units of its product at a price of \$9 per unit and (ii) earning a positive profit, then:
- its total cost is less than \$9,000.
  - its marginal revenue is less than \$9.
  - its average revenue is greater than \$9.
  - All of the above are correct.

**Table 3**

Quantity	Total Revenue	Total Cost
0	\$0	\$10
1	9	14
2	18	19
3	27	25
4	36	32
5	45	40
6	54	49
7	63	59
8	72	70
9	81	82

56. **Refer to Table 3.** At which quantity of output is marginal revenue equal to marginal cost?
- 3
  - 6
  - 8
  - All of the above are correct.
57. If marginal cost exceeds marginal revenue, the firm:
- is most likely to be at a profit-maximizing level of output.
  - should increase the level of production to maximize its profit.
  - must be experiencing losses.
  - may still be earning a profit.

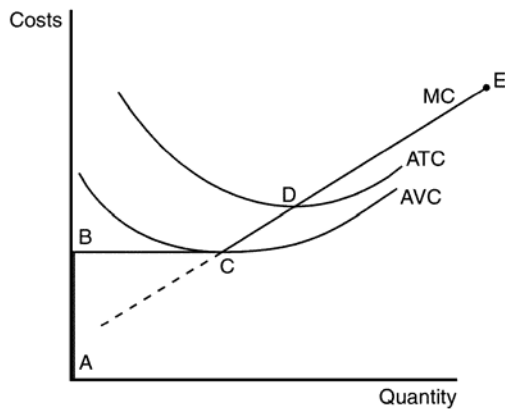
**Figure 7**



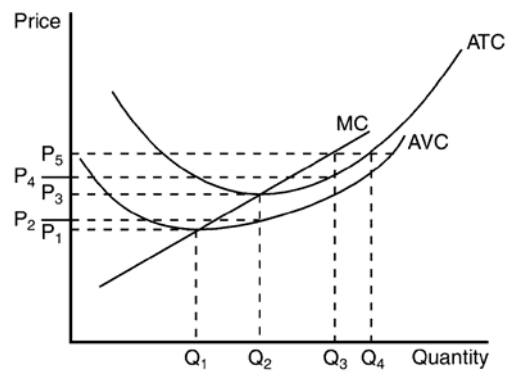
58. **Refer to Figure 7.** When price rises from  $P_2$  to  $P_3$ , the firm finds that:
- marginal cost exceeds marginal revenue at a production level of  $Q_2$ .
  - if it produces at output level  $Q_3$  it will earn a positive profit.
  - expanding output to  $Q_4$  would leave the firm with losses.
  - All of the above are correct.
59. **Refer to Figure 7.** When price falls from  $P_3$  to  $P_1$ , the firm finds that:
- fixed cost is higher at a production level of  $Q_1$  than it is at  $Q_3$ .
  - it should produce  $Q_1$  units of output.
  - it should produce  $Q_3$  units of output.
  - it is unwilling to produce any output.

The figures below depict the cost structures of profit-maximizing firms in competitive markets.

**Figure 8**



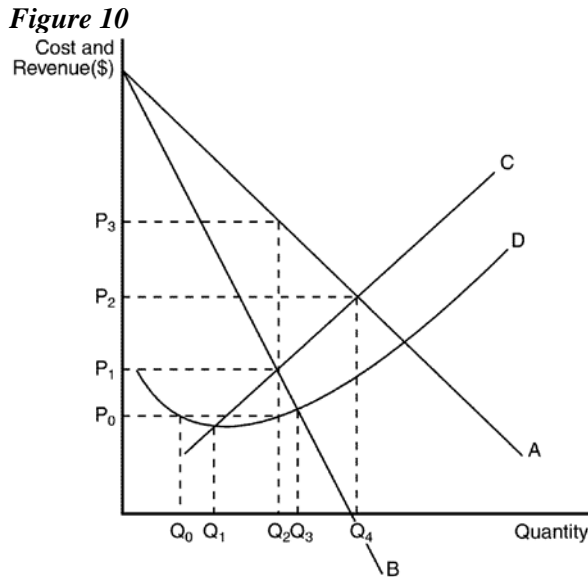
**Figure 9**



60. **Refer to Figure 8.** Which line segment best reflects the short-run supply curve for this firm?
- BCD
  - CD
  - DE
  - None of the above are correct.
61. **Refer to Figure 9.** When market price is  $P_5$ , a profit-maximizing firm's profits can be represented by the area
- $P_5 \times Q_3$ .
  - $(P_5 - P_3) \times Q_2$ .
  - $(P_5 - P_4) \times Q_3$ .
  - When market price is  $P_5$  there are no profits.
62. **Refer to Figure 9.** Firms would be encouraged to enter this market for all prices that exceed
- $P_1$ .
  - $P_2$ .
  - $P_3$ .
  - None of the above are correct.

63. To begin, a competitive firm is selling its output for \$10 per unit and it is maximizing its profit. Now, the price rises to \$14 and the firm makes whatever adjustments are necessary to maximize its profit at the now-higher price. Once the firm has adjusted, which of the following statements is correct?
- The firm's marginal revenue is lower than it was previously.
  - The firm's marginal cost is lower than it was previously.
  - The firm's quantity of output is higher than it was previously.
  - All of the above are correct.
64. In a market with 1,000 identical firms, the short-run market supply is the
- marginal cost curve (above average variable cost) for a typical firm in the market.
  - quantity supplied by the typical firm in the market.
  - sum of the prices charged by each of the 1,000 individual firms.
  - sum of the quantities supplied by each of the 1,000 individual firms.
65. 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.
66. A monopoly's marginal cost will:
- be less than its average fixed cost.
  - be less than the price per unit of its product.
  - exceed its marginal revenue.
  - equal its average total cost.
67. A fundamental source of monopoly market power arises from:
- perfectly elastic demand.
  - perfectly inelastic demand.
  - barriers to entry.
  - availability of "free" natural resources, such as water or air.
68. Drug companies are allowed to be monopolists in the drugs they discover in order to
- allow drug companies to charge a price that is equal to their marginal cost.
  - discourage new firms from entering the drug market.
  - encourage research.
  - All of the above are correct.
69. The key difference between a competitive firm and a monopoly firm is the ability to select:
- the level of competition in the market.
  - the level of production.
  - inputs in the production process.
  - the price of its output.
70. If a profit-maximizing monopolist faces a downward-sloping market demand curve, its
- average revenue is less than the price of the product.
  - average revenue is less than marginal revenue.
  - marginal revenue is less than the price of the product.
  - marginal revenue is greater than the price of the product.

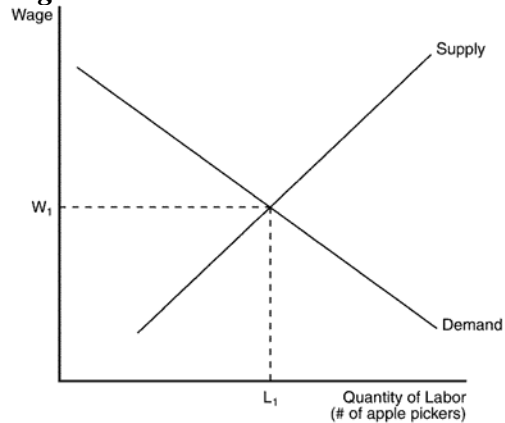
The figure below reflects the cost and revenue structure for a monopoly firm.



71. **Refer to Figure 10.** A profit-maximizing monopoly's total revenue is equal to
- $P_3 \times Q_2$ .
  - $P_2 \times Q_4$ .
  - $(P_3 - P_0) \times Q_2$ .
  - $(P_3 - P_0) \times Q_4$ .
72. **Refer to Figure 10.** A profit-maximizing monopoly's profit is equal to
- $P_3 \times Q_2$ .
  - $P_2 \times Q_4$ .
  - $(P_3 - P_0) \times Q_2$ .
  - $(P_3 - P_0) \times Q_4$ .
73. **Refer to Figure 10.** At the profit-maximizing level of output,
- marginal revenue is equal to  $P_3$ .
  - marginal cost is equal to  $P_3$ .
  - average revenue is equal to  $P_3$ .
  - None of the above are correct.
74. Due to the nature of the patent laws on pharmaceuticals, the market for such drugs
- always remains a competitive market.
  - always remains a monopolistic market.
  - switches from competitive to monopolistic once the firm's patent runs out.
  - switches from monopolistic to competitive once the firm's patent runs out.
75. Complete the following sentence. A monopoly market:
- always maximizes total economic well-being.
  - always minimizes consumer surplus.
  - generally fails to maximize total economic well-being.
  - generally fails to maximize producer surplus.

76. Dick owns a dog whose barking annoys Dick's neighbour Jane. Dick receives personal benefit from owning the dog, and Jane bears a cost of Dick's ownership of the dog. Assuming Dick has the legal right to keep the dog,
- A private solution can always be arranged.
  - A private solution can be arranged only if the cost Jane bears exceeds the benefit Dick gets from his dog.
  - A private solution can be arranged only if Jane's cost equals Dick's benefit from the dog.
  - A private solution can be arranged only if Dick's benefit from his dog exceeds Jane's cost.
77. For a competitive firm that finds it worthwhile to operate, rather than shut down, attainment of the usual objective requires that
- output price = marginal cost.
  - wage = value of marginal product of labour.
  - profit is maximized.
  - All of the above are correct.
78. Given that wheat is an important ingredient in bread, which of the following statements is correct?
- The supply of wheat is derived from consumers' choices, which determine the demand for bread.
  - The demand for wheat is derived from firms' choices, which determine the supply of bread.
  - The demand for wheat and the demand for bread are both derived demands.
  - Neither the demand for wheat nor the demand for bread is a derived demand.
79. The value of the marginal product of labour is calculated by multiplying the
- price of output by the quantity of labour.
  - price of output by the marginal product of labour.
  - wage by the quantity of labour.
  - wage by the marginal product of labour.
80. Some discriminatory hiring practices can be expected, even if markets are competitive, as a result of
- unrestricted entry and exit in markets.
  - lower costs of hiring.
  - a perfectly elastic market demand.
  - customer preferences.
81. Measures of poverty that fail to account for the value of in-kind transfers
- understate the actual poverty rate.
  - have little effect on the validity of reported poverty rates.
  - are generally more reliable in accounting for annual variation in actual poverty rates.
  - overstate the actual poverty rate.
82. Economic mobility
- Is the movement of people among income classes
  - Is substantial in the Canadian economy
  - May reflect transitory or more persistent changes of income
  - All of the above

**Figure 11**



83. **Refer to Figure 11.** If the apple pickers start working fewer hours (by taking more vacation time), the equilibrium wage will
- fall below  $w_1$  due to a shift in demand.
  - fall below  $w_1$  due to a shift in supply.
  - rise above  $w_1$  due to a shift in demand.
  - rise above  $w_1$  due to a shift in supply.

**Scenario 2**

Assume that the labour market for barbers is competitive and that it is differentiated into two groups: those who are bald (or going bald) and those who have a full head of hair. Assume that the barbers in this market have identical hair-cutting ability regardless of whether they are bald or not. Currently the equilibrium wage in the bald barber market is lower than that in the non-bald market. Further assume that the market for haircuts is competitive.

84. **Refer to Scenario 2.** Competition in the market for haircuts is consistent with which of the following statements?
- Firms hiring nonbald barbers will have a cost advantage, leading to an increase in the demand for nonbald barbers.
  - Firms that hire only bald barbers will eventually all go out of business.
  - Firms hiring bald barbers will enter the market, increasing the demand for bald barbers.
  - Firms hiring bald barbers will enter the market, decreasing the demand for bald barbers.
85. Common criticisms of welfare programs include all of the following EXCEPT
- the programs create incentives for people to become needy.
  - the programs encourage families to break-up.
  - the programs encourage illegitimate births.
  - the programs create a drug dependency.

**Short-Answer Questions (15 points)**

*Answer in the space provided.*

86. (3 points) In the province of Alberta, the tax on hotel rooms is 5 percent. Supporters of this tax argue that the tax benefits the province because it mostly falls on out-of-province tourists and business persons. What are your views? Explain
87. (4 points) Using a supply and demand diagram, demonstrate how a positive externality leads to market inefficiency. How might the government help to eliminate this inefficiency?

88. (4 points) Using the theory of wage determination, explain why wages in developing countries are typically quite low.

89. (4 points) Using demand-supply analysis, show how the elasticity of demand of labour determines the magnitude of unemployment when an effective minimum wage is imposed.