

UNIVERSITY OF VICTORIA
EXAMINATIONS APRIL 2006
ECON 103

NAME: _____ **STUDENT NO:** _____

INSTRUCTOR: _____ **SECTION:** _____

DURATION: TWO (2) HOURS

**TO BE ANSWERED ON THE PAPER
AND ON N.C.S. ANSWER SHEETS**

**STUDENTS MUST COUNT THE NUMBER OF PAGES IN THIS EXAMINATION
PAPER BEFORE BEGINNING TO WRITE, AND REPORT ANY
DISCREPANCY IMMEDIATELY TO THE INVIGILATOR.**

**THIS QUESTION PAPER HAS 19 PAGES INCLUDING THIS COVER PAGE,
11 TABLES/DIAGRAMS AND 1 BLANK PAGE.**

SECTION 1: 40 MULTIPLE CHOICE QUESTIONS (60 MARKS)

SECTION 2: 2 SHORT ANSWERS (40 MARKS)

Section 1: Multiple Choice Questions: 60 marks
Please write your answers on the scan sheet provided.

1. A friend comes up to you and offers to give you a free ticket to the local professional team's baseball game that night. You decide to attend the game. It takes five hours to go to the game and costs you \$15 for transportation. If you had not attended the game, you would have worked at your part-time job for \$8 an hour. What is the cost of you attending the game?
 - A) zero—The ticket is free.
 - B) \$65
 - C) \$40
 - D) \$55

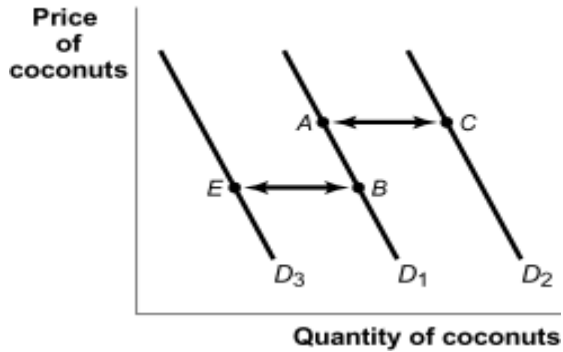
2. The production possibilities frontier will shift outward for which of the following reasons?
 - A) a decrease in the labour force
 - B) an upgrade of capital to the best available technology that is currently available
 - C) better technology which improves worker productivity
 - D) a decrease in the unemployment rate

3. If they produce only hamburgers, then in a single day Sarah can produce 10 hamburgers while Abe can produce 5 hamburgers. If they only make milkshakes, then in a single day Sarah can produce 10 milkshakes while Abe can produce 4 milkshakes. We then know that:
 - A) Sarah has an absolute advantage and a comparative advantage in making hamburgers.
 - B) Sarah has an absolute advantage and a comparative advantage in making milkshakes.
 - C) Abe has an absolute advantage and a comparative advantage in making hamburgers
 - D) Abe has an absolute advantage and a comparative advantage in making milkshakes.

4. If Molson and Alexander Keith's beers are viewed as substitutes in consumption, then an increase in the price of Molson will:
 - A) increase the quantity demanded for Molson.
 - B) increase the demand for Alexander Keith's beer.
 - C) decrease the demand for Alexander Keith's beer.
 - D) cause the quantity demanded for Molson to decrease.

Use the following to answer question 5:

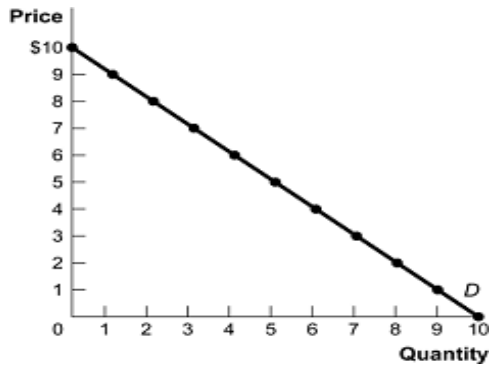
Figure: Demand for Coconuts



5. (Figure: Demand for Coconuts) The accompanying figure shows the demand for coconuts. If a coconut is a normal good and the price of coconuts increases, then the movement that would take place in the model could be:
- A) *A to B.*
 - B) *B to A.*
 - C) *C to A.*
 - D) *E to B.*
6. Suppose the equilibrium price of good Y is \$5 and the equilibrium quantity is 150 units. If the price of good Y is \$12:
- A) the quantity demanded will be greater than 150 units.
 - B) the quantity supplied will be less than 150 units.
 - C) there will be an excess demand for good Y.
 - D) there will be an excess supply of good Y.
7. For consumers, pizza and hamburgers are substitutes. A rise in the price of a pizza causes ____ in the price of a hamburger and ____ in the quantity of hamburgers.
- A) a rise; an increase
 - B) a rise; a decrease
 - C) a fall; an increase
 - D) a fall; a decrease

Use the following to answer question 8:

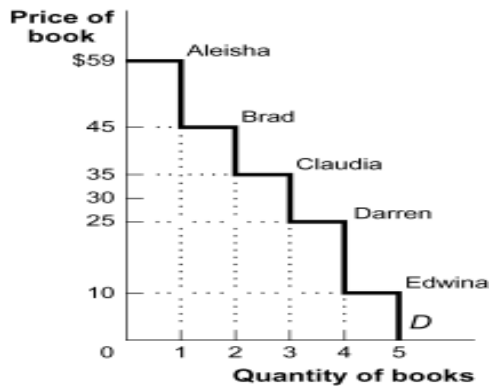
Figure: Demand Curve



8. (Figure: Demand Curve) In the accompanying figure, the price elasticity of demand between \$6 and \$7, which you can calculate by using the midpoint method, is approximately:
- A) 0.19.
 - B) 1.
 - C) 1.86.
 - D) 5.4.
9. Egg producers know that the elasticity of demand for eggs is 0.1. If they want to increase sales by 5%, they will have to lower price by:
- A) 0.1%
 - B) 1%
 - C) 5%
 - D) 50%

Use the following to answer question 10:

Figure: Consumer Surplus

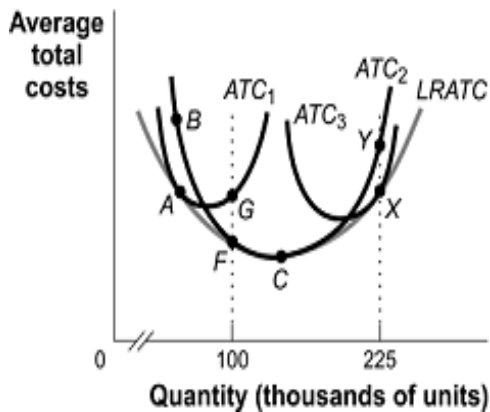


10. (Figure: Consumer Surplus) In the accompanying figure, when the price falls from \$30 to \$25, consumer surplus _____ for a total consumer surplus of _____.
- A) increases by \$25; \$74
 - B) decreases by \$15; \$34
 - C) increases by \$15; \$64
 - D) increases by \$5; \$54
11. Suppose the government imposes a \$10 excise tax on the sale of sweaters by charging suppliers \$10 for each sweater sold. Based on economic analysis, we would predict that
- A) the price of sweaters will increase by \$10.
 - B) consumers of sweaters will bear the entire burden of the tax.
 - C) the price of sweaters will increase by less than \$10.
 - D) a and b are true.
12. Brad spends all his income on two goods: X and Y . He is purchasing the optimal consumption bundle, bundle E , that maximizes his utility given his budget constraint. At the optimal consumption bundle, which of the following statements is correct?
- A) If the price of X is greater than the price of Y , then the marginal utility of X is greater than the marginal utility of Y .
 - B) If the price of X is less than the price of Y , then the marginal utility of X is less than the marginal utility of Y .
 - C) If the price of X is equal to the price of Y , then the marginal utility of X is equal to the marginal utility of Y .
 - D) All of the above are correct.

13. Karen consumes gasoline and other goods. A new excise tax on gasoline raises gas prices. However, the government pays Karen an income subsidy which is just enough for her to stay on her original (pre-tax) indifference curve. Her new optimal consumption bundle will have:
- A) the same amount of both gasoline and other goods as before.
 - B) less gas and more of other goods.
 - C) less of other goods and more gas.
 - D) This question can't be answered, since some essential information (such as Karen's income, the pre- and post-tax prices of gas, etc.) is missing.
14. Suppose good B is an inferior good and the price of B decreases. Then:
- A) the substitution effect will cause an increase in the consumption of good B .
 - B) the income effect will cause an increase in the consumption of good B .
 - C) the income effect will cause a decrease in the consumption of good B .
 - D) a and c will occur.
15. The total product curve:
- A) shows the relation between output and the quantity of a variable input for varying levels of the fixed input.
 - B) will become flatter as output increases, if there are diminishing returns to the variable input.
 - C) will be downward sloping, if there are diminishing returns to the variable input.
 - D) will become horizontal, when the marginal product of the variable input is constant.
16. Austin's total fixed cost is \$3,600. Austin employs 20 workers and pays each worker \$60. The average product of labour is 30, the marginal product of the 20th worker is 12. What is the marginal cost of the last unit produced by the last worker who Austin hired?
- A) \$0.20
 - B) \$5
 - C) \$240
 - D) \$720

Use the following to answer question 17:

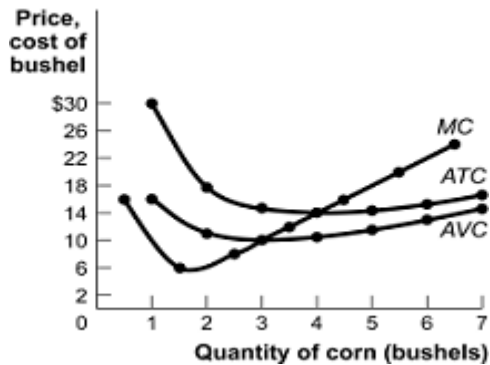
Figure: Cost Curves



17. (Figure: Cost Curves) If a firm currently was producing at point *C* on the ATC_2 in the accompanying figure, but anticipates increasing output to 225-thousand units in the long-run, the firm will build a _____ plant and experience _____.
- smaller; economies of scale
 - smaller; diseconomies of scale
 - larger; economies of scale
 - larger; diseconomies of scale
18. A competitive firm operating in the short run is producing at the output level at which ATC is at a minimum. If $ATC = \$8$ and $MR = \$9$, in order to maximize profits (or minimize losses), this firm should:
- increase output.
 - reduce output.
 - shut down.
 - do nothing; the firm is already maximizing profits.
19. Zoe's Bakery determines that $P < ATC$ and $P > AVC$. Zoe should:
- continue to operate even though she is enduring an economic loss.
 - continue to operate as she is making an economic profit.
 - shut down immediately as she is enduring an economic loss.
 - raise the price until she has maximized her profits.

Use the following to answer question 20:

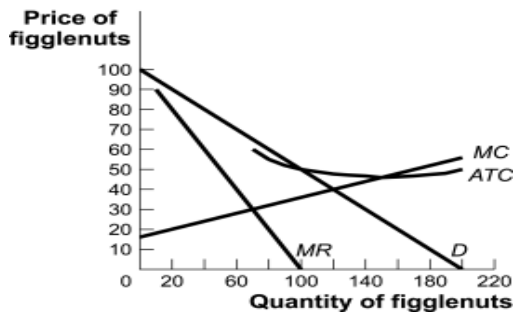
Figure: Cost Curve and Profits



20. (Figure: Cost Curves and Profits) The market for corn is perfectly competitive, and an individual corn farmer faces the cost curves shown in the accompanying figure. If the price of a bushel of corn in the market is \$14, then the farmer will produce _____ of corn and earn an economic _____ equal to _____.
- 4 bushels; profit; \$0.
 - 4 bushels; profit; just less than \$80 per bushel
 - 2 bushels; profit; \$0
 - 2 bushels; loss; just more than \$80 per bushel
21. A monopoly is producing where average total cost equals \$30, marginal revenue is \$40, and the price is \$50. If *ATC* is at its minimum level and the *ATC* curve is U-shaped, in order to maximize profits this firm should:
- increase output.
 - reduce output.
 - do nothing; it is already maximizing profits.
 - shut down.

Use the following to answer question 22:

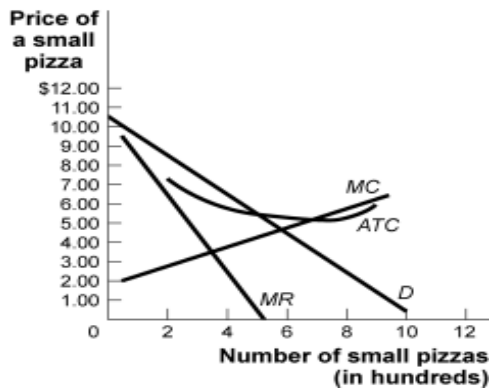
Figure: Demand, Revenue, and Cost Curves



22. (Figure: Demand, Revenue, and Cost Curves) The accompanying figure shows the demand, marginal revenue, marginal cost, and average total cost curves for Figglenuts-R-Us, a monopolist in the figglenut market. Figglenuts-R-Us will sell _____ figglenuts and set a price of _____ to maximize profits.
- A) 70; \$65
 - B) 100; \$50
 - C) 120; \$40
 - D) 150; \$46
23. If a monopolist can engage in perfect price discrimination, then:
- A) it produces at the socially efficient level.
 - B) consumer surplus is reduced to zero.
 - C) each consumer is charged the highest price that he or she is willing to pay.
 - D) all of the above are true.
24. The following are four differences between monopoly and perfect competition. Which of these is INCORRECT?
- A) A monopolist has market power while a perfect competitor does not.
 - B) Unlike a perfectly competitive firm, a monopoly can make positive economic profits in the long run.
 - C) A monopoly will charge a higher price and produce a smaller quantity than a competitive market with the same demand and cost structure.
 - D) Monopoly profits can continue to exist in the long run, because the monopoly produces more and charges a higher price than a comparable perfectly competitive industry.

Use the following to answer questions 25-26:

Figure: Monopolistic Competition II



25. (Figure: Monopolistic Competition II) The accompanying figure shows the demand, marginal revenue, marginal cost, and average total cost curves for Pat's Pizza Parlor, a monopolistic competitor in the food-to-go industry. The optimal level of output for Pat's Pizza Parlor is _____ and the profit-maximizing price of a small pizza is _____.
- A) 350; \$3.50
 B) 350; \$7.00
 C) 590; \$5.60
 D) 500; \$5.50
26. (Figure: Monopolistic Competition II) The accompanying figure shows the demand, marginal revenue, marginal cost, and average total cost curves for Pat's Pizza Parlor, a monopolistic competitor in the food-to-go industry. In the long run, the demand curve facing Pat's Pizza Parlor will _____ as its competitors _____ the market.
- A) shift to the right; enter
 B) shift to the right; leave
 C) shift to the left; enter
 D) shift to the left; leave

27. When a monopolistically competitive firm is experiencing economic losses, it is producing at the output level at which the average total cost curve is not tangent to the demand curve faced by the firm. At this output:
- A) the firm is maximizing profits, and marginal cost must equal marginal revenue.
 - B) the firm is not maximizing profits, and a slight increase or decrease in output will lead to positive profits.
 - C) since economic profits are equal to zero, the marginal revenue equals marginal cost condition is irrelevant and need not hold.
 - D) firms will exit the industry in the long run until all remaining firms earn zero economic profit.
28. The restaurant industry is characterized by excess capacity. This means:
- A) restaurants are producing more than their profit-maximizing level.
 - B) the profit-maximizing level is less than the level that minimizes average total costs.
 - C) restaurants are producing less than their profit-maximizing level.
 - D) the quantity of restaurant meals supplied exceeds the quantity of restaurant meals demanded.
29. Gary's Gas and Frank's Fuel are the only two providers of gasoline in Smalltown, and they decide to form a cartel to raise the price of gasoline. The total industry profits are highest when _____ and Gary's profits are highest when _____.
- A) neither firm cheats on the agreement; neither firm cheats on the agreement
 - B) neither firm cheats on the agreement; Gary cheats on the agreement but Frank does not cheat
 - C) both Gary and Frank cheat on the agreement; both Gary and Frank cheat on the agreement
 - D) None of the above is correct.
30. Gary's Gas and Frank's Fuel are the only two providers of gasoline in Smalltown. Gary believes he faces a kinked demand curve. This means Gary thinks if he lowers his price, then Frank will _____, and if he raises his price, Frank will _____.
- A) lower his price; raise his price
 - B) lower his price; not raise his price
 - C) not lower his price; raise his price
 - D) not lower his price; not raise his price

Use the following to answer question 31:

Figure: Payoff Matrix for Gehrig and Gabriel

		Gehrig	
		Produce 5,000 figurines	Produce 7,000 figurines
Gabriel	Produce 5,000 figurines	Gehrig earns \$100,000 Gabriel earns \$100,000	Gehrig earns \$110,000 Gabriel earns \$80,000
	Produce 7,000 figurines	Gehrig earns \$80,000 Gabriel earns \$110,000	Gehrig earns \$90,000 Gabriel earns \$90,000

31. (Figure: Payoff Matrix for Gehrig and Gabriel) The accompanying figure shows the payoff matrix for two producers, Gehrig and Gabriel, who sell handmade Inuit figurines in Edmonton. Both Gehrig and Gabriel have two strategies available to them: to produce 5,000 figurines each month or to produce 7,000 figurines each month. For Gehrig and Gabriel, the dominant strategy is to:
- A) produce 5,000 figurines.
 - B) produce 7,000 figurines.
 - C) produce between 5,000 and 7,000 figurines.
 - D) collude and increase production to more than 14,000 figurines.

Use the following to answer question 32:

Figure: Payoff Matrix for Ajinomoto and ADM

		Ajinomoto	
		Produce 30 million pounds	Produce 40 million pounds
ADM	Produce 30 million pounds	Ajinomoto makes \$180 million ADM makes \$180 million	Ajinomoto makes \$200 million ADM makes \$150 million
	Produce 40 million pounds	Ajinomoto makes \$150 million ADM makes \$200 million	Ajinomoto makes \$160 million ADM makes \$160 million

32. (Figure: Payoff Matrix for Ajinomoto and ADM) Given the payoff matrix in the accompanying figure, the Nash equilibrium combination is for:
- A) each firm to produce 30 million pounds.
 - B) each firm to produce 40 million pounds.
 - C) ADM to produce 30 million pounds and for Ajinomoto to produce 40 million pounds.
 - D) ADM to produce 40 million pounds and for Ajinomoto to produce 30 million pounds.
33. SemiScientific Superconductors should continue hiring workers until:
- A) $MPL \times P = \text{demand}$.
 - B) $MPL \times W = P$.
 - C) $MPL \times P = \text{wage}$.
 - D) the quantity of labour supplied = the quantity of labour demanded.
34. The owner of Barry's Brewpub is considering hiring more brewmasters (he already employs several). A pint of brew sells for \$3. The current market wage of a brewmaster is \$150 per day. The owner will hire another brewmaster only if he believes that the new brewmaster will:
- A) produce the same number of pints per day as the last brewmaster hired.
 - B) produce 50 or more pints per day.
 - C) raise total production to 50 or more pints per day.
 - D) increase the marginal product by \$150 per day.
35. An "efficiency wage" describes a wage rate that is:
- A) above the equilibrium wage and is paid in order to provide workers with an incentive to perform efficiently.
 - B) efficient because it is exactly equal to the wage rate implied by the marginal productivity theory.
 - C) determined by collective bargaining between unions and management.
 - D) equal to the VMPL adjusted to make the structure of compensation more equitable.
36. Diana's labour supply curve is backward bending at a wage of \$44. Thus:
- A) for a wage above \$44, the substitution effect of a wage increase will cause Diana to work fewer hours.
 - B) for a wage below \$44, the substitution effect of a wage increase will cause Diana to work fewer hours.
 - C) for a wage below \$44, the substitution effect of an increase in the wage dominates the income effect.
 - D) none of the above is correct.

37. Suppose the production of DVDs generates sulfur dioxide, an air pollutant. Then the equilibrium market quantity of DVDs produced and consumed:
- A) is less than the socially optimal quantity.
 - B) is more than the socially optimal quantity.
 - C) equals the socially optimal quantity.
 - D) may be more than, less than, or equal to the socially optimal quantity.
38. Which of the following statements about environmental standards and emissions taxes is correct?
- A) An emissions tax is a more efficient way to reduce pollution than an environmental standard, because an emissions tax leads to an equalization of the marginal cost of abatement from all sources.
 - B) An environmental standard is a more efficient way to reduce pollution than an emissions tax, because an environmental standard can be structured to lead to an equalization of the reduction in pollution from all sources.
 - C) If an emissions tax and environmental standards lead to the same total reduction in pollution, then they will also lead to the same reduction in pollution by individual polluters.
 - D) It is easy to set emissions taxes at the “correct” level, since the relationship between emissions taxes and the reduction in emissions that they will induce has been extensively studied and is well-known.
39. In London, any motorist entering a particular area in the city center during certain specified times must pay a congestion fee equal to £5, with fines for non-compliance rising to as high as £120. The congestion fee is:
- A) an example of a Pigouvian tax aimed at regulating the use of the common resource of city streets.
 - B) an attempt to internalize the costs due to traffic delays and congestion that are created by drivers in the specified area.
 - C) the wrong policy tool for solving the problem of congestion; instead, motorists should be allowed to make deals to determine when and where individuals are permitted to drive.
 - D) both a and b.

Use the following to answer question 40:

Table: Street Cleanings for Peter and Wendy

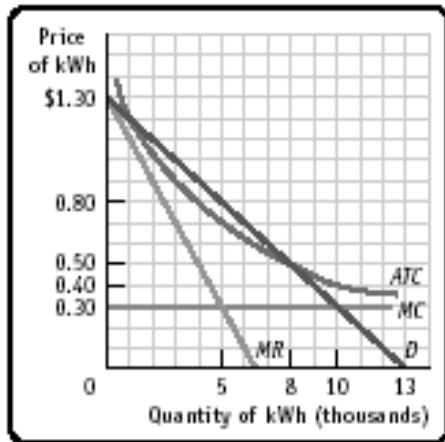
Number of street cleanings per month	Peter's total benefit	Wendy's total benefit
0	\$0	\$0
1	10	8
2	18	15
3	24	21
4	28	26
5	30	30

40. (Table: Street Cleanings for Peter and Wendy) Peter and Wendy both benefit from having cleaner streets. The relationship between the number of street cleanings per month and the total benefit they get is shown in the accompanying table. Suppose that the marginal cost of street cleaning is \$18 per cleaning. Then:
- A) if the city decides to clean the streets only once per month, Peter would be willing to pay the entire cost of the cleaning.
 - B) if the city decides to clean the streets only once per month, Wendy would be willing to pay the entire cost of the cleaning.
 - C) if Wendy and Peter are the only people in society, the efficient number of street cleanings would be one per month.
 - D) if Wendy and Peter are the only people in society, the efficient number of street cleanings would be at least two per month.

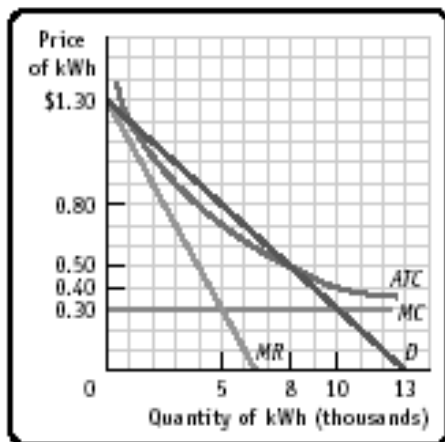
Section 2: Short answer questions
Please answer on the examination paper

Question 1 (20 marks)

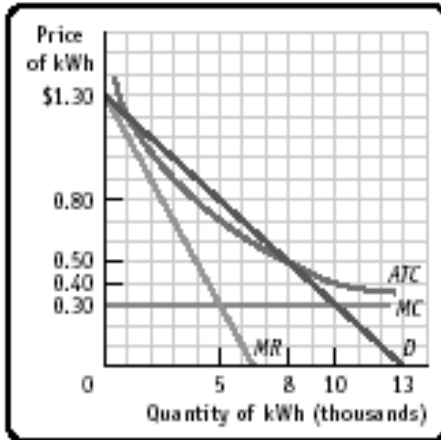
The accompanying diagram illustrates your local electricity company's natural monopoly. The diagram shows the demand (D) curve for kilowatt-hours (kWh) of electricity, the company's marginal revenue (MR) curve, the marginal cost (MC) curve, and its average total cost (ATC) curve. The government wants to regulate the monopolist by imposing a price ceiling.



a. If the government does not regulate this monopolist, which price will it charge and how much will it produce? Illustrate the inefficiency this creates by shading the deadweight loss from the monopoly in the diagram below (6 marks).



b. If the government imposes a price ceiling equal to the marginal cost, \$0.30, will the monopolist make profits or lose money? Shade the area of profit (or losses) for the monopolist in the diagram below. If the government imposes this price ceiling, do you think the firm will continue to produce in the long run? **(8 marks)**



c. If the government imposes a price ceiling of \$0.50, how much will the monopolist produce? Will the monopolist make a profit or lose money? **(6 marks)**

Question 2 (20 marks)

“In the long run, there is no difference between monopolistic competition and perfect competition.” True, false, or ambiguous? Discuss this statement and explain your answer with respect to the following:

- a. The price charged to consumers (**5 marks**)
- b. The average total cost of production (**5 marks**)
- c. The efficiency of the market outcome (**5 marks**)
- d. The typical firm’s profit in the long run (**5 marks**)

Extra writing space for question 2.

END