McMaster University
Department of Economics

ECON 1B03
Midterm Test #2

VERSION 3

Instructor: Professor H Holmes
Duration: 2 hours
Total Number of Pages: 13

INSTRUCTIONS:

Answer all questions on the scan sheets. USE AN HB PENCIL ONLY. Make sure you carefully fill in the bubbles. YOU MUST FILL IN YOUR STUDENT NUMBER, AND VERSION NUMBER ON THE SCAN SHEET OR YOUR GRADE WILL NOT BE RECORDED.

You may use the Casio FX calculator.

Hand in the scan sheet and this test copy.

TOTAL MARKS AVAILABLE: 50

NAME:_____

STUDENT #: _____

MUGSI ID: _____

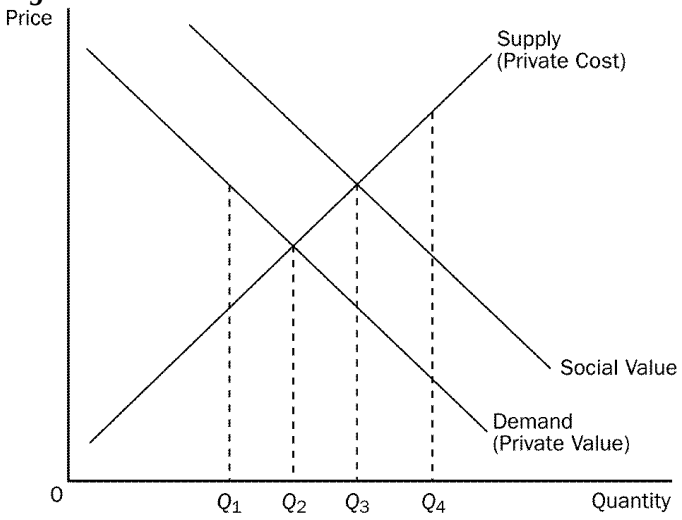
SECTION**:** Circle One: 9:30-10:20 11:30-12:20 Wednesday Night

Multiple Choice
Identify the letter of the choice that best completes the statement or answers the question.

____ 1. When externalities are present in a market
a. the established equilibrium maximizes the total benefit to society as a whole.
b. market participants lose some market benefits to bystanders.
c. both equity and efficiency are maximized.
d. the market fails to allocate resources efficiently.

____ 2. A positive externality
a. causes the product to be overproduced.
b. provides an additional benefit to market participants.
c. benefits consumers because it results in a lower equilibrium price.
d. is a benefit to a market bystander.

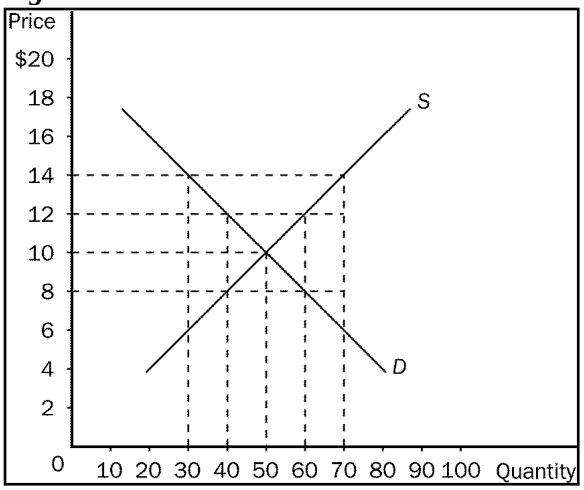
Figure 1



____ 3. **Refer to Figure 1.** Which quantity represents the social optimum for this market?
a. Q_1.
b. Q_2.
c. Q_3.
d. Q_4.

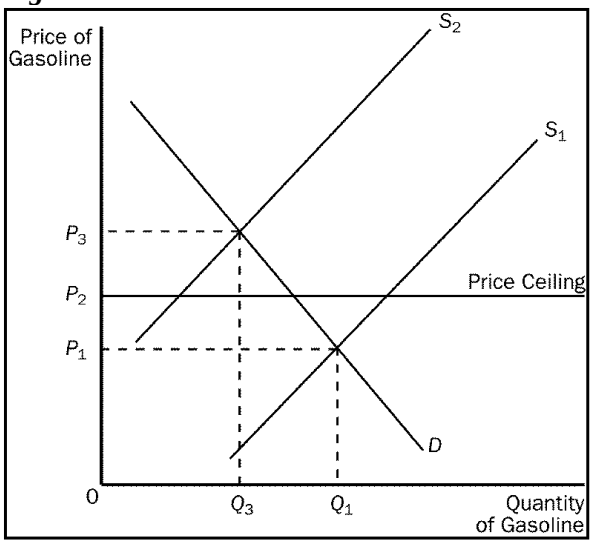
____ 4. According to the Coase theorem
a. private parties can bargain to reach an efficient outcome.
b. government assistance is necessary for markets with externalities to reach an efficient outcome.
c. externalities, both positive and negative, will always cause markets to be inefficient.
d. no market will experience long-term externalities, since normal market adjustments will eliminate externalities.

Figure 2



____ 5. **Refer to Figure 2**. If the government imposes a binding price ceiling of $8.00 in this market, the result would be a
   a. surplus of 20.
   b. surplus of 40.
   c. shortage of 20.
   d. shortage of 40.

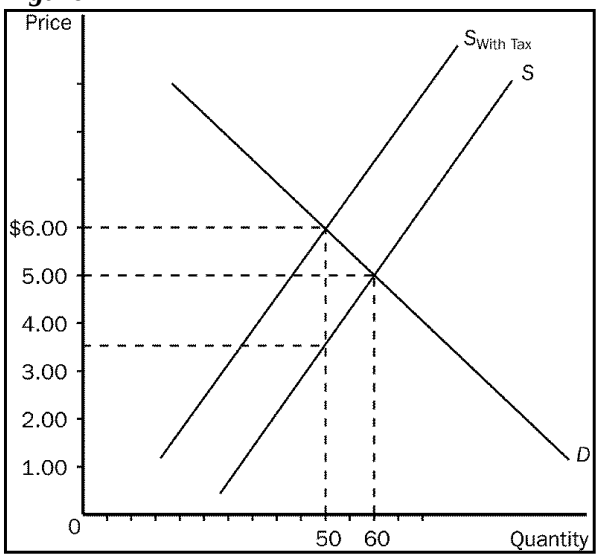
Figure 3



____ 6. **Refer to Figure 3**. Without the price ceiling in this market for gasoline, when the supply curve shifts from S1 to S2 the price will
   a. increase to P3, but a shortage will still exist.
   b. increase to P3 and the market will clear.
   c. remain at P1 and a shortage will still exist.
   d. eventually move to P2 without government assistance.

____ 7. Assume that the demand and supply curves for cars are elastic. If the government imposed a $500 tax on the buyer of each car, we can assume that the
   a. equilibrium price of a car would decrease by less than $500.
   b. price of a car would decrease by exactly $500.
   c. price of a car would decrease by more than $500.
   d. price of a car would not change if both curves were elastic.

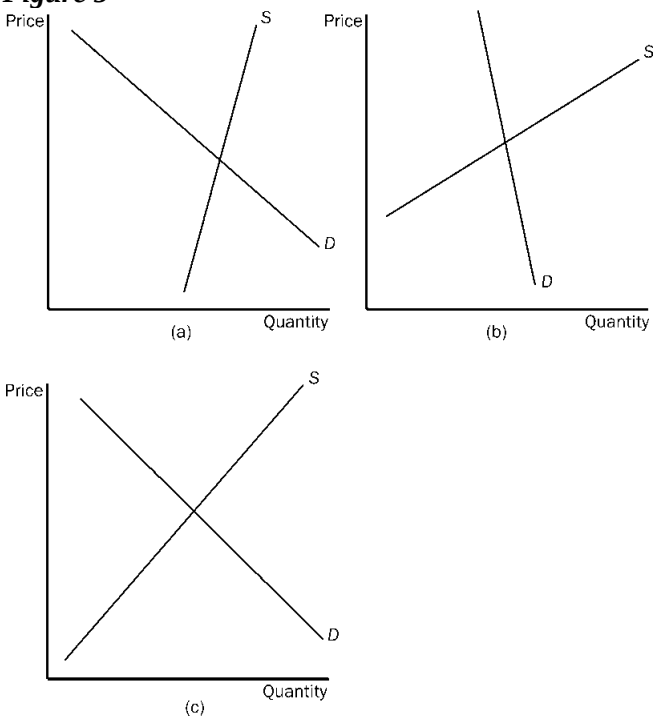
Figure 4



____ 8. **Refer to Figure 4**. The price sellers receive after the tax is imposed is
   a. $1.00.
   b. $3.50.
   c. $5.00.
   d. $6.00.

____ 9. **Refer to Figure 4**. The amount of the tax that sellers would pay would be
   a. $1.00.
   b. $1.50.
   c. $2.50.
   d. $3.00.

Figure 5

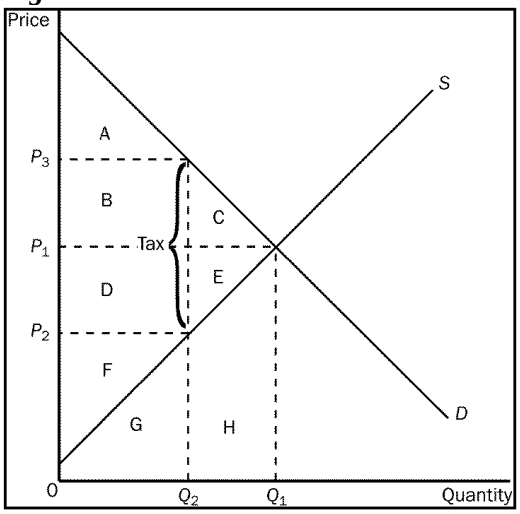


____ 10. **Refer to Figure 5**. In which market will the majority of a tax be paid by the seller?
a. market (a)
b. market (b)
c. market (c)
d. All of the above are correct.

____ 11. If a tax is imposed on a market with elastic demand and inelastic supply,
a. buyers will bear most of the burden of the tax.
b. sellers will bear most of the burden of the tax.
c. the burden of the tax will be shared equally between buyers and sellers.
d. it is impossible to determine how the burden of the tax will be shared.

____ 12. Assume that the demand for pretzels is relatively inelastic and that the demand for potato chips is relatively elastic. If the same percentage tax were placed on both goods, the tax on which product would create a larger deadweight loss?
a. the tax on pretzels
b. the tax on potato chips
c. The taxes would create the same amount of deadweight loss.
d. This question is impossible to answer without knowing the price of both pretzels and potato chips.

Figure 6



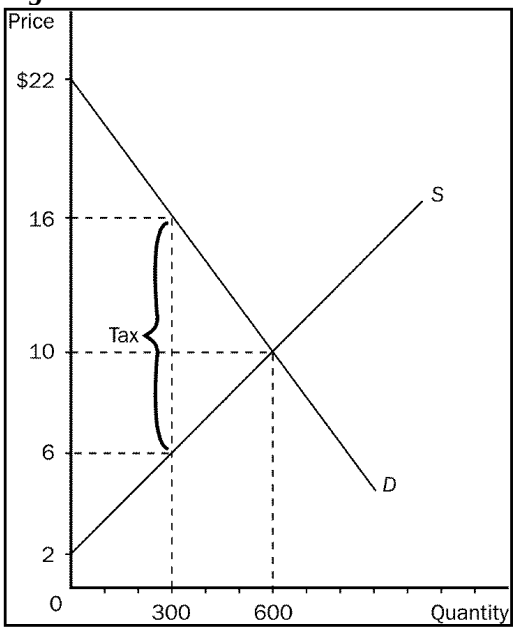
____ 13. **Refer to Figure 6**. After the tax is levied, producer surplus is represented by area
a. A
b. A + B + C
c. D + E + F
d. F

____ 14. **Refer to Figure 6**. The tax caused a reduction in consumer surplus represented by area
a. A
b. B + C
c. D + E
d. F

____ 15. **Refer to Figure 6**. The total surplus (consumer, producer, and government) with the tax is represented by area
a. A + B + C
b. D + E + F
c. A + B + D + F
d. C + E

Continued on the next page…

Figure 7



____ 16. **Refer to Figure 7**. The deadweight loss in this market as a result of a tax would be
a. $600.
b. $900.
c. $1500.
d. $1800.

____ 17. Market demand is given by Qd = 1500 - 25P and market supply is given by Qs = 15P - 100. The government imposes a tax of $5 per unit on consumers. The new, after-tax demand curve is given by Qd* = 1375 - 25P. Consumers now pay a price of
a. $36.88
b. $40
c. $41.88
d. none of the above.

____ 18. Market demand is given by Qd = 1500 - 25P and market supply is given by Qs = 15P - 100. The government imposes a tax of $5 per unit on consumers. The new, after-tax demand curve is given by Qd* = 1375 - 25P. The deadweight loss due to taxation is approximately
a. $235
b. $418.80
c. $117.50
d. $470.00

____ 19. Market demand is given by Qd = 1500 - 25P and market supply is given by Qs = 15P - 100. The government imposes a tax of $5 per unit on consumers. The new, after-tax supply curve is given by Qs* = 1375 - 25P. Complete the following sentence:
"Since the _____ burden of the tax falls on _____, the _____ curve is _____ _____ than the _____ curve."
a. larger; firm; demand; less elastic; supply
b. smaller; firm; supply; more elastic; demand
c. smaller; consumer; demand; more elastic; supply
d. larger; firm; supply; more elastic; demand.

____ 20. When adding another unit of labour leads to an increase in output that is smaller than increases in output that resulted from adding previous units of labour, we have the property of
a. diminishing labour.
b. diminishing output.
c. diminishing marginal product.
d. negative marginal product.

____ 21. Assume a certain firm regards the number of workers it employs as variable, and that it regards the size of its factory as fixed. This assumption is often realistic
a. in the short run, but not in the long run.
b. in the long run, but not in the short run.
c. both in the short run and in the long run.
d. neither in the short run nor in the long run.

____ 22. Suppose a certain firm is able to produce 160 units of output per day when 15 workers are hired. The firm is able to produce 176 units of output per day when 16 workers are hired (holding other inputs fixed). Then the marginal product of the 16th worker is
a. 10 units of output.
b. 11 units of output.
c. 16 units of output.
d. 176 units of output.

____ 23. Diminishing marginal product suggests that the marginal
a. cost of an extra worker is unchanged.
b. cost of an extra worker is less than the previous worker's marginal cost.
c. product of an extra worker is less than the previous worker's marginal product.
d. product of an extra worker is greater than the previous worker's marginal product.

____ 24. When marginal cost exceeds average total cost,
a. average fixed cost must be rising.
b. average total cost must be rising.
c. average total cost must be falling.
d. marginal cost must be falling.

____ 25. The marginal cost curve crosses the average total cost curve at
a. the efficient scale.
b. the minimum point on the average total cost curve.
c. a point where the marginal cost curve is rising.
d. All of the above are correct.

Scenario 1
A certain firm produces and sells staplers. Last year, it produced 5,000 staplers and sold each stapler for $8. In producing the 5,000 staplers, it incurred variable costs of $30,000 and a total cost of $45,000.

____ 26. **Refer to Scenario 1**. In producing the 5,000 staplers, the firm's average variable cost was
a. $2.
b. $4.
c. $6.
d. $8.

____ 27. **Refer to Scenario 1 on the previous page**. The firm's economic profit for the year was
a. $-35,000.
b. $-5,000
c. $10,000.
d. $40,000.

Table 1

Measures of Cost for ABC Inc. Widget Factory			
Quantity of Widgets	Variable Costs	Total Costs	Fixed Costs
0			$10
1	$ 1		
2	$ 3	$13	
3	$ 6	$16	
4	$10		
5		$25	
6	$21		$10

____ 28. **Refer to Table 1**. The average variable cost of producing four widgets is
a. $2.00
b. $2.50
c. $3.33
d. $5.00

____ 29. **Refer to Table 1**. What is the marginal cost of producing the first widget?
a. $1.00
b. $10.00
c. $11.00
d. It can't be determined from the information given.

____ 30. Consider the following information about baseball production at Bob's Baseball Factory:

Worker	Marginal Product
1	3
2	5
3	8
4	10
5	7
6	4
7	2

Bob pays all his workers the same wage and labour is his only variable cost. From this information we can conclude that Bob's marginal cost decreases
a. as output rises from 0 to 10, but rises after that.
b. as output rises from 0 to 26, but rises after that.
c. as output rises from 0 to 33, but increases after that.
d. continually as output rises.

____ 31. In a competitive market,
a. each seller can sell all he wants to sell at the going price.
b. buyers and sellers are price takers.
c. the goods offered by the different sellers are largely the same.
d. All of the above are correct.

____ 32. For a competitive firm,
a. average revenue equals the price of the good, but marginal revenue is different.
b. marginal revenue equals the price of the good, but average revenue is different.
c. average revenue equals marginal revenue, but the price of the good is different.
d. average revenue, marginal revenue, and the price of the good are all equal to one another.

Table 2

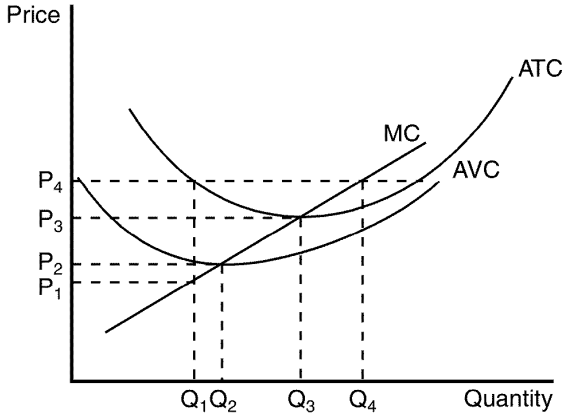
Quantity	Total Revenue	Total Cost
0	$0	$10
1	9	14
2	18	19
3	27	25
4	36	32
5	45	40
6	54	49
7	63	59
8	72	70
9	81	82

____ 33. **Refer to Table 2**. If this firm chooses to maximize profit it will choose a level of output where marginal cost is equal to
a. 6.
b. 7.
c. 8.
d. 9.

____ 34. **Refer to Table 2**. If the firm finds that its marginal cost is $5, it should
a. reduce fixed costs by lowering production.
b. increase production to maximize profit.
c. decrease production to maximize profit.
d. maintain its current level of production to maximize profit.

____ 35. When marginal revenue equals marginal cost, the firm
a. should increase the level of production to maximize its profit.
b. may be minimizing its losses, rather than maximizing its profit.
c. must be generating economic profits.
d. must be generating economic losses.

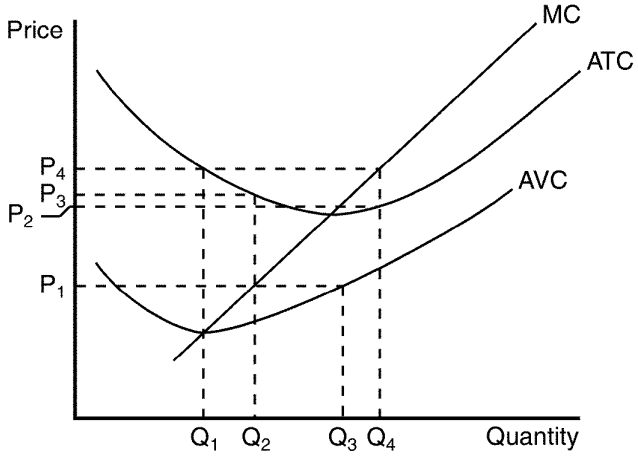
Figure 8



____ 36. **Refer to Figure 8**. When price falls from P_3 to P_1, the firm finds that
a. fixed cost is higher at a production level of Q_1 than it is at Q_3.
b. it should produce Q_1 units of output.
c. it should produce Q_3 units of output.
d. it is unwilling to produce any output.

____ 37. Which of the following statements best reflects the production decision of a profit-maximizing firm in a competitive market when price falls below the minimum of average variable cost?
a. The firm will continue to produce to attempt to pay fixed costs.
b. The firm will immediately stop production to minimize its losses.
c. The firm will stop production as soon as it is able to pay its sunk costs.
d. The firm will continue to produce in the short run but will likely exit the market in the long run.

Figure 9



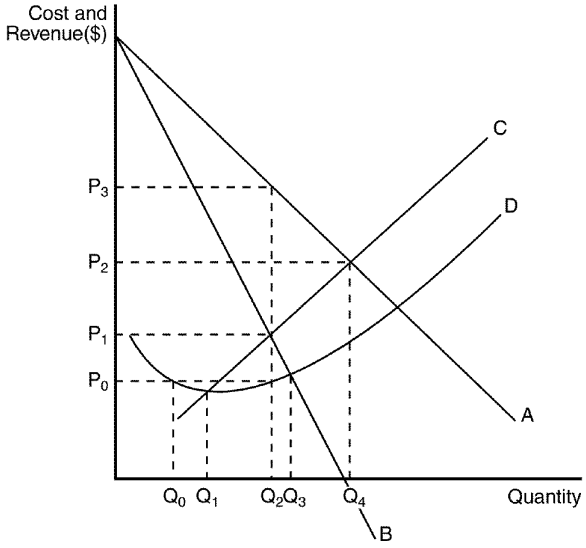
____ 38. **Refer to Figure 9.** When a profit-maximizing firm is earning profits, those profits can be identified by
a. $P \times Q$.
b. $(MC - AVC) \times Q$.
c. $(P - ATC) \times Q$.
d. $(P - AVC) \times Q$.

____ 39. A firm that is a natural monopoly
a. is not likely to be concerned about new entrants eroding its monopoly power.
b. is taking advantage of economies of scale.
c. would experience a higher average total cost if more firms entered the market.
d. All of the above are correct.

____ 40. Which of the following statements is true?
(i) When a competitive firm sells an additional unit of output, its revenue increases by an amount less than the price.
(ii) When a monopoly firm sells an additional unit of output, its revenue increases by an amount less than the price.
(iii) Average revenue is the same as price for both competitive and monopoly firms.

a. (i) only
b. (iii) only
c. (i) and (ii)
d. (ii) and (iii)

Figure 10



____ 41. **Refer to Figure 10**. A profit-maximizing monopoly's profit is equal to
a. $P_3 \times Q_2$.
b. $P_2 \times Q_4$.
c. $(P_3 - P_0) \times Q_2$.
d. $(P_3 - P_0) \times Q_4$.

____ 42. The price of a good sold in a perfectly competitive market is $10. Each identical firm has a marginal cost function MC = 2Q. A profit-maximizing firm will produce
a. Q = 2
b. Q = 5
c. Q = 8
d. Q = 10.

____ 43. The price of a good sold in a perfectly competitive market is $10. Each identical firm has a marginal cost function MC = 2Q. The firm's marginal revenue is
a. $2
b. $5
c. $8
d. $10.

____ 44. In a perfectly competitive market, market demand is given by Qd = 40 - 2P and market supply is given by Qs = 4P - 20. Each identical firm has a MC = 5Q. Each firm is currently producing 3 units of output. Each firm is:
a. producing too little.
b. producing too much.
c. maximizing profit.
d. none of the above.

____ 45. In a perfectly competitive market, market demand is given by Qd = 40 - 2P and market supply is given by Qs = 4P - 20. Each identical firm has a MC = 5Q. The individual firm's demand is given as
a. Q = 40 - 2P
b. Q = .2MC
c. P = 5Q
d. P = 10.

____ 46. In a perfectly competitive market, market demand is given by Qd = 40 - 2P and market supply is given by Qs = 4P - 20. Each identical firm has a MC = 5Q. In the long run, if minimum LRAC for each firm is $6,
a. there will be entry into the market
b. there will be exit from the market
c. the market is in LR equilibrium
d. all firms will incur losses.

____ 47. Suppose the market described in Question #46 above is served by a monopolist with MR = 20 - Q. The monopolist's demand curve is given by the equation
a. P = 20 - Q
b. Q = 40 - 2P
c. P = 10
d. P = 5Q

____ 48. Suppose the market described in Question #46 above is served by a monopolist with MR = 20 - Q. The monopolist's marginal cost curve would be
a. MC = 5Q
b. the market supply curve
c. MC = .25Q + 5
d. both B and C
e. both A and B.

____ 49. Suppose the market described in Question #46 above is served by a monopolist with MR = 20 - Q. The deadweight loss due to monopoly is
a. $36
b. $72
c. $48
d. none of the above.

____ 50. Suppose the market described in Question #46 above is served by a monopolist with MR = 20 - Q. If the monopolist's average total costs were constant at $9 (that is, ATC = 9), its profit would equal
a. $0
b. $20
c. $40
d. $60.

____ 51. Somewhere in Thorold, ON there is a dairy cow named
a. Holmesy
b. Hannah
c. Little Professor
d. Yoko.