

**McMaster University  
Department of Economics**

**ECON 1B03  
Midterm Test #2**

**VERSION 4**

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: \_\_\_\_\_

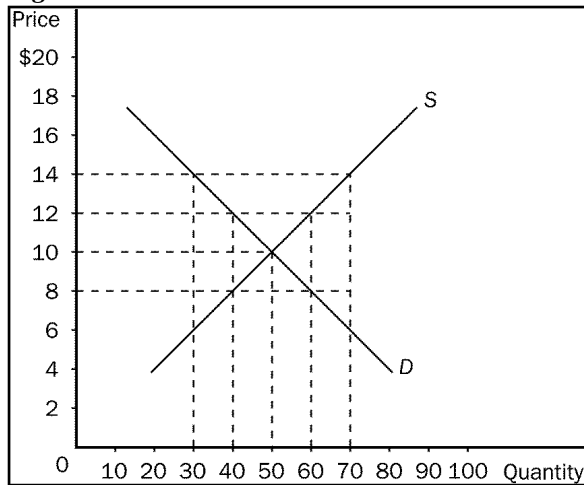
STUDENT #: \_\_\_\_\_

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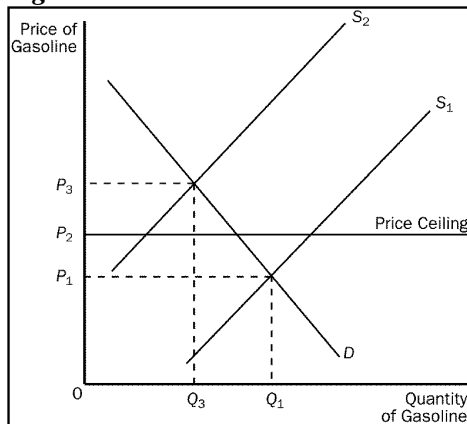
SECTION: Circle One:    9:30-10:20      11:30-12:20      Wednesday Night

**Multiple Choice**

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

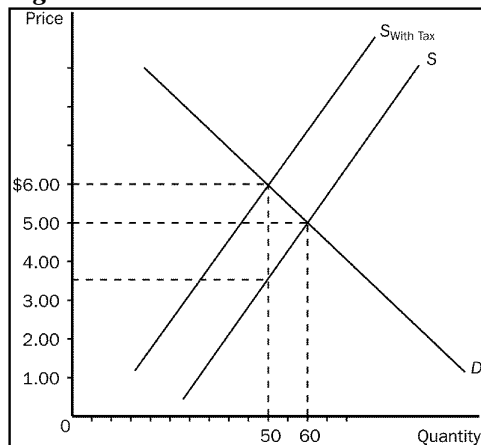
**Figure 1**

1. **Refer to Figure 1.** If the government imposes a binding price ceiling of \$8.00 in this market, the result would be a
- surplus of 20.
  - surplus of 40.
  - shortage of 20.
  - shortage of 40.

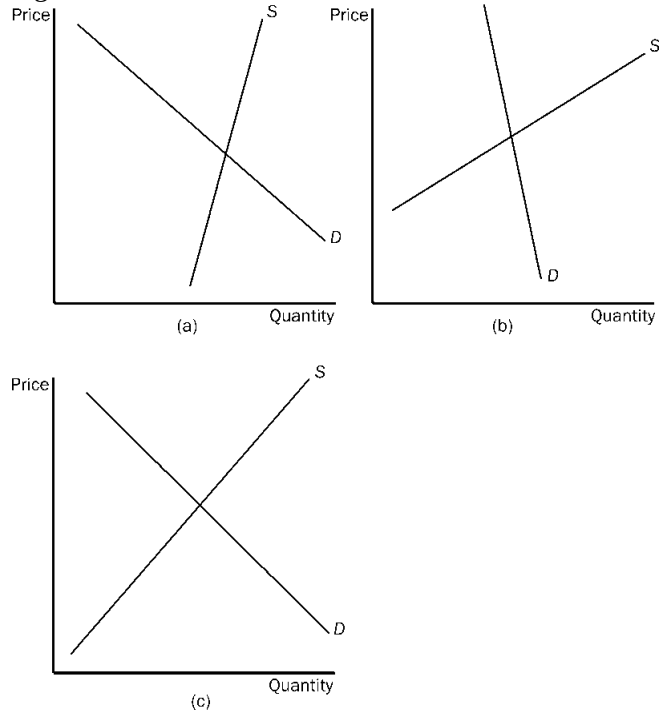
**Figure 2**

2. **Refer to Figure 2.** Without the price ceiling in this market for gasoline, when the supply curve shifts from  $S_1$  to  $S_2$  the price will
- increase to  $P_3$ , but a shortage will still exist.
  - increase to  $P_3$  and the market will clear.
  - remain at  $P_1$  and a shortage will still exist.
  - eventually move to  $P_2$  without government assistance.

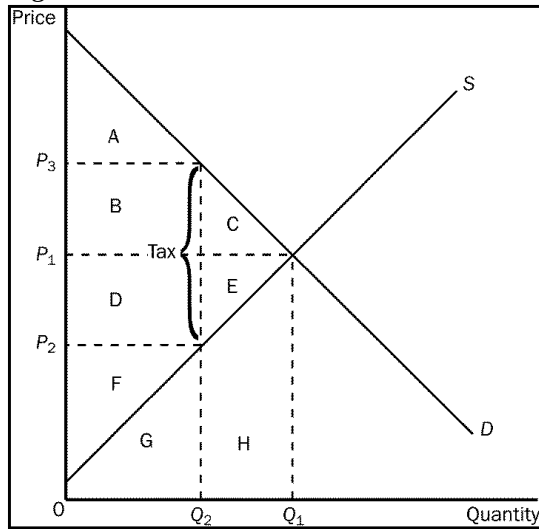
3. Assume that the demand and supply curves for cars are elastic. If the government imposed a \$500 tax on the buyer of each car, we can assume that the
- equilibrium price of a car would decrease by less than \$500.
  - price of a car would decrease by exactly \$500.
  - price of a car would decrease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

**Figure 3**

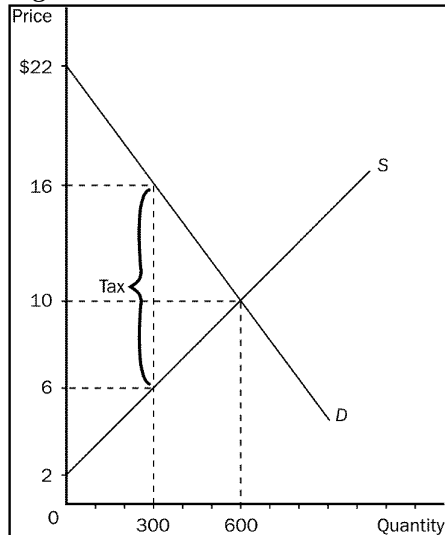
4. **Refer to Figure 3.** The price sellers receive after the tax is imposed is
- \$1.00.
  - \$3.50.
  - \$5.00.
  - \$6.00.
5. **Refer to Figure 3.** The amount of the tax that sellers would pay would be
- \$1.00.
  - \$1.50.
  - \$2.50.
  - \$3.00.

**Figure 4**

- \_\_\_\_\_ 6. **Refer to Figure 4.** In which market will the majority of a tax be paid by the seller?
- market (a)
  - market (b)
  - market (c)
  - All of the above are correct.
- \_\_\_\_\_ 7. If a tax is imposed on a market with elastic demand and inelastic supply,
- buyers will bear most of the burden of the tax.
  - sellers will bear most of the burden of the tax.
  - the burden of the tax will be shared equally between buyers and sellers.
  - it is impossible to determine how the burden of the tax will be shared.
- \_\_\_\_\_ 8. 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?
- the tax on pretzels
  - the tax on potato chips
  - The taxes would create the same amount of deadweight loss.
  - This question is impossible to answer without knowing the price of both pretzels and potato chips.

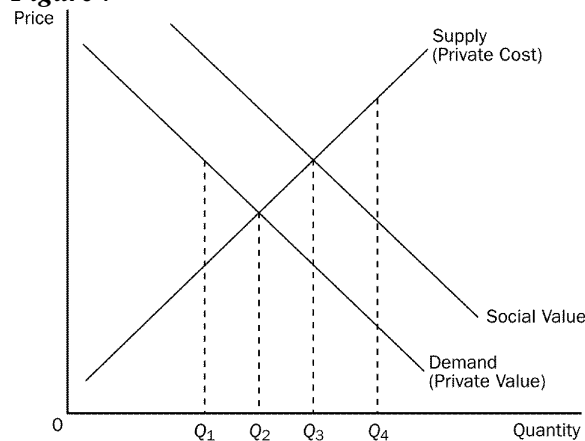
**Figure 5**

- \_\_\_\_ 9. **Refer to Figure 5.** After the tax is levied, producer surplus is represented by area
- A
  - A + B + C
  - D + E + F
  - F
- \_\_\_\_ 10. **Refer to Figure 5.** The tax caused a reduction in consumer surplus represented by area
- A
  - B + C
  - D + E
  - F
- \_\_\_\_ 11. **Refer to Figure 5.** The total surplus (consumer, producer, and government) with the tax is represented by area
- A + B + C
  - D + E + F
  - A + B + D + F
  - C + E

**Figure 6**

- \_\_\_\_ 12. **Refer to Figure 6.** The deadweight loss in this market as a result of a tax would be
- \$600.
  - \$900.
  - \$1500.
  - \$1800.
- \_\_\_\_ 13. Market demand is given by  $Q_d = 1500 - 25P$  and market supply is given by  $Q_s = 15P - 100$ . The government imposes a tax of \$5 per unit on consumers. The new, after-tax demand curve is given by  $Q_d^* = 1375 - 25P$ . Consumers now pay a price of
- \$36.88
  - \$40
  - \$41.88
  - none of the above.
- \_\_\_\_ 14. Market demand is given by  $Q_d = 1500 - 25P$  and market supply is given by  $Q_s = 15P - 100$ . The government imposes a tax of \$5 per unit on consumers. The new, after-tax demand curve is given by  $Q_d^* = 1375 - 25P$ . The deadweight loss due to taxation is approximately
- \$235
  - \$418.80
  - \$117.50
  - \$470.00
- \_\_\_\_ 15. Market demand is given by  $Q_d = 1500 - 25P$  and market supply is given by  $Q_s = 15P - 100$ . The government imposes a tax of \$5 per unit on consumers. The new, after-tax supply curve is given by  $Q_s^* = 1375 - 25P$ . Complete the following sentence:  
 “Since the \_\_\_\_\_ burden of the tax falls on \_\_\_\_\_, the \_\_\_\_\_ curve is \_\_\_\_\_ than the \_\_\_\_\_ curve.”
- larger; firm; demand; less elastic; supply
  - smaller; firm; supply; more elastic; demand
  - smaller; consumer; demand; more elastic; supply
  - larger; firm; supply; more elastic; demand.

16. When externalities are present in a market
- the established equilibrium maximizes the total benefit to society as a whole.
  - market participants lose some market benefits to bystanders.
  - both equity and efficiency are maximized.
  - the market fails to allocate resources efficiently.
17. A positive externality
- causes the product to be overproduced.
  - provides an additional benefit to market participants.
  - benefits consumers because it results in a lower equilibrium price.
  - is a benefit to a market bystander.

**Figure 7**

18. **Refer to Figure 7.** Which quantity represents the social optimum for this market?
- $Q_1$ .
  - $Q_2$ .
  - $Q_3$ .
  - $Q_4$ .
19. According to the Coase theorem
- private parties can bargain to reach an efficient outcome.
  - government assistance is necessary for markets with externalities to reach an efficient outcome.
  - externalities, both positive and negative, will always cause markets to be inefficient.
  - no market will experience long-term externalities, since normal market adjustments will eliminate externalities.
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
- diminishing labour.
  - diminishing output.
  - diminishing marginal product.
  - 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
- in the short run, but not in the long run.
  - in the long run, but not in the short run.
  - both in the short run and in the long run.
  - 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
- 10 units of output.
  - 11 units of output.
  - 16 units of output.
  - 176 units of output.
- \_\_\_\_\_ 23. Diminishing marginal product suggests that the marginal
- cost of an extra worker is unchanged.
  - cost of an extra worker is less than the previous worker's marginal cost.
  - product of an extra worker is less than the previous worker's marginal product.
  - product of an extra worker is greater than the previous worker's marginal product.
- \_\_\_\_\_ 24. The marginal cost curve crosses the average total cost curve at
- the efficient scale.
  - the minimum point on the average total cost curve.
  - a point where the marginal cost curve is rising.
  - All of the above are correct.
- \_\_\_\_\_ 25. 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.

### ***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
- \$2.
  - \$4.
  - \$6.
  - \$8.
- \_\_\_\_\_ 27. **Refer to Scenario 1.** The firm's economic profit for the year was
- \$-35,000.
  - \$-5,000
  - \$10,000.
  - \$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.** What is the marginal cost of producing the first widget?
- \$1.00
  - \$10.00
  - \$11.00
  - It can't be determined from the information given.

- \_\_\_\_ 29. **Refer to Table 1.** The average variable cost of producing four widgets is
- \$2.00
  - \$2.50
  - \$3.33
  - \$5.00

- \_\_\_\_ 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

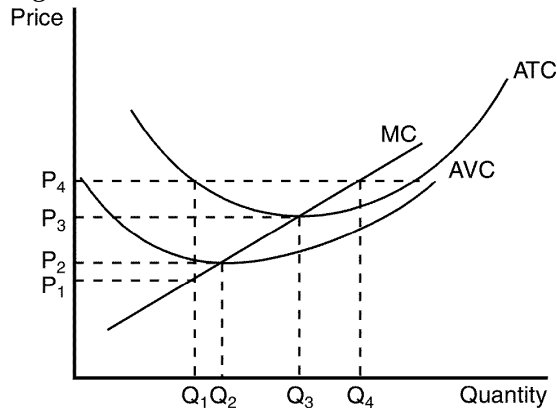
- as output rises from 0 to 10, but rises after that.
  - as output rises from 0 to 26, but rises after that.
  - as output rises from 0 to 33, but increases after that.
  - continually as output rises.
- \_\_\_\_ 31. For a competitive firm,
- average revenue equals the price of the good, but marginal revenue is different.
  - marginal revenue equals the price of the good, but average revenue is different.
  - average revenue equals marginal revenue, but the price of the good is different.
  - average revenue, marginal revenue, and the price of the good are all equal to one another.

- \_\_\_\_\_ 32. 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.

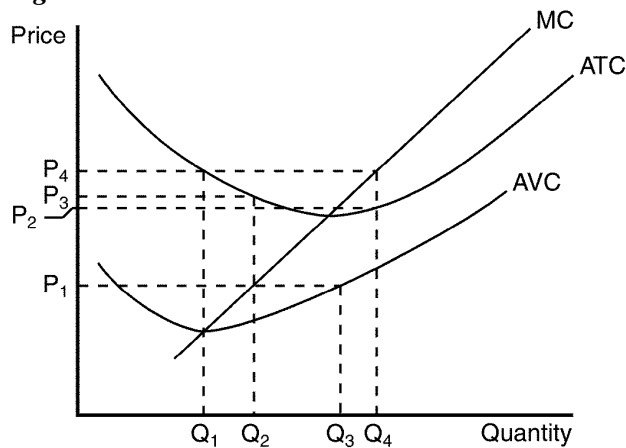
**Table 2**

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
- 6.
  - 7.
  - 8.
  - 9.
- \_\_\_\_\_ 34. **Refer to Table 2.** If the firm finds that its marginal cost is \$5, it should
- reduce fixed costs by lowering production.
  - increase production to maximize profit.
  - decrease production to maximize profit.
  - maintain its current level of production to maximize profit.
- \_\_\_\_\_ 35. When marginal revenue equals marginal cost, the firm
- should increase the level of production to maximize its profit.
  - may be minimizing its losses, rather than maximizing its profit.
  - must be generating economic profits.
  - must be generating economic losses.

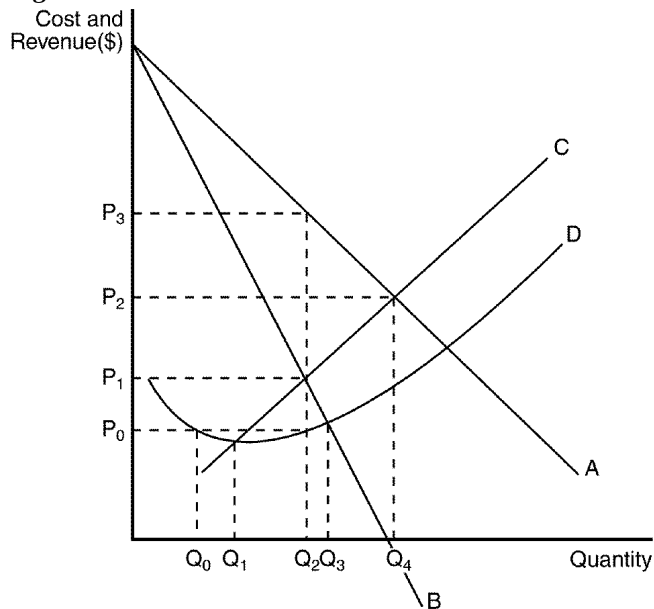
**Figure 8**

36. **Refer to Figure 8.** When price falls from  $P_3$  to  $P_1$ , the firm finds that
- 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.
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?
- The firm will continue to produce to attempt to pay fixed costs.
  - The firm will immediately stop production to minimize its losses.
  - The firm will stop production as soon as it is able to pay its sunk costs.
  - 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
- $P \times Q$ .
  - $(MC - AVC) \times Q$ .
  - $(P - ATC) \times Q$ .
  - $(P - AVC) \times Q$ .

39. Which of the following statements is true?
- When a competitive firm sells an additional unit of output, its revenue increases by an amount less than the price.
  - When a monopoly firm sells an additional unit of output, its revenue increases by an amount less than the price.
  - Average revenue is the same as price for both competitive and monopoly firms.
- (i) only
  - (iii) only
  - (i) and (ii)
  - (ii) and (iii)
40. A firm that is a natural monopoly
- is not likely to be concerned about new entrants eroding its monopoly power.
  - is taking advantage of economies of scale.
  - would experience a higher average total cost if more firms entered the market.
  - All of the above are correct.

**Figure 10**

41. **Refer to Figure 10.** A profit-maximizing monopoly's profit is equal to
- $P_3 \times Q_2$ .
  - $P_2 \times Q_4$ .
  - $(P_3 - P_0) \times Q_2$ .
  - $(P_3 - P_0) \times Q_4$ .
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
- $Q = 2$
  - $Q = 5$
  - $Q = 8$
  - $Q = 10$ .

- \_\_\_\_\_ 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
- \$2
  - \$5
  - \$8
  - \$10.
- \_\_\_\_\_ 44. In a perfectly competitive market, market demand is given by  $Q_d = 40 - 2P$  and market supply is given by  $Q_s = 4P - 20$ . Each identical firm has a  $MC = 5Q$ . Each firm is currently producing 3 units of output. Each firm is:
- producing too little.
  - producing too much.
  - maximizing profit.
  - none of the above.
- \_\_\_\_\_ 45. In a perfectly competitive market, market demand is given by  $Q_d = 40 - 2P$  and market supply is given by  $Q_s = 4P - 20$ . Each identical firm has a  $MC = 5Q$ . The individual firm's demand is given as
- $Q = 40 - 2P$
  - $Q = .2MC$
  - $P = 5Q$
  - $P = 10$ .
- \_\_\_\_\_ 46. In a perfectly competitive market, market demand is given by  $Q_d = 40 - 2P$  and market supply is given by  $Q_s = 4P - 20$ . Each identical firm has a  $MC = 5Q$ . In the long run, if minimum LRAC for each firm is \$6,
- there will be entry into the market
  - there will be exit from the market
  - the market is in LR equilibrium
  - 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
- $P = 20 - Q$
  - $Q = 40 - 2P$
  - $P = 10$
  - $P = 5Q$
- \_\_\_\_\_ 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
- $MC = 5Q$
  - the market supply curve
  - $MC = .25Q + 5$
  - both B and C
  - 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
- \$36
  - \$72
  - \$48
  - 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
- \$0
  - \$20
  - \$40
  - \$60.
- \_\_\_\_\_ 51. Somewhere in Thorold, ON there is a dairy cow named
- Holmesy
  - Hannah
  - Little Professor
  - Yoko.