Midterm Test #2

EC120: Introduction to Microeconomics
Friday November 13, 2015
7:30pm - 9:00pm

Version A

General Instructions

- You have **90 minutes**.
- The exam is 17 pages in total (including cover page and instructions).
- There are 55 multiple choice questions worth one mark each (for a total of 55 marks).
- **No student may leave before 8:00pm**.
- Use a dark lead pencil to complete the Student Enrolment Sheet (aka. Scantron Card)
- Answer all questions by filling in the circle corresponding to the best answer. If you change your answer then completely erase your previous answer.
- Course materials (e.g. textbook, course notes, etc.) are not permitted during the exam.
- Non-programmable calculators are permitted. Dictionaries are not permitted.
- Instructions on how to fill out the Student Enrolment Sheet (scantron card) can be found on the next page (page 2).
- You are welcome to keep the question paper and are advised to record your answers on it.
- **Hand in the Student Enrolment Sheet (scantron card) only**.

Instructions by Section

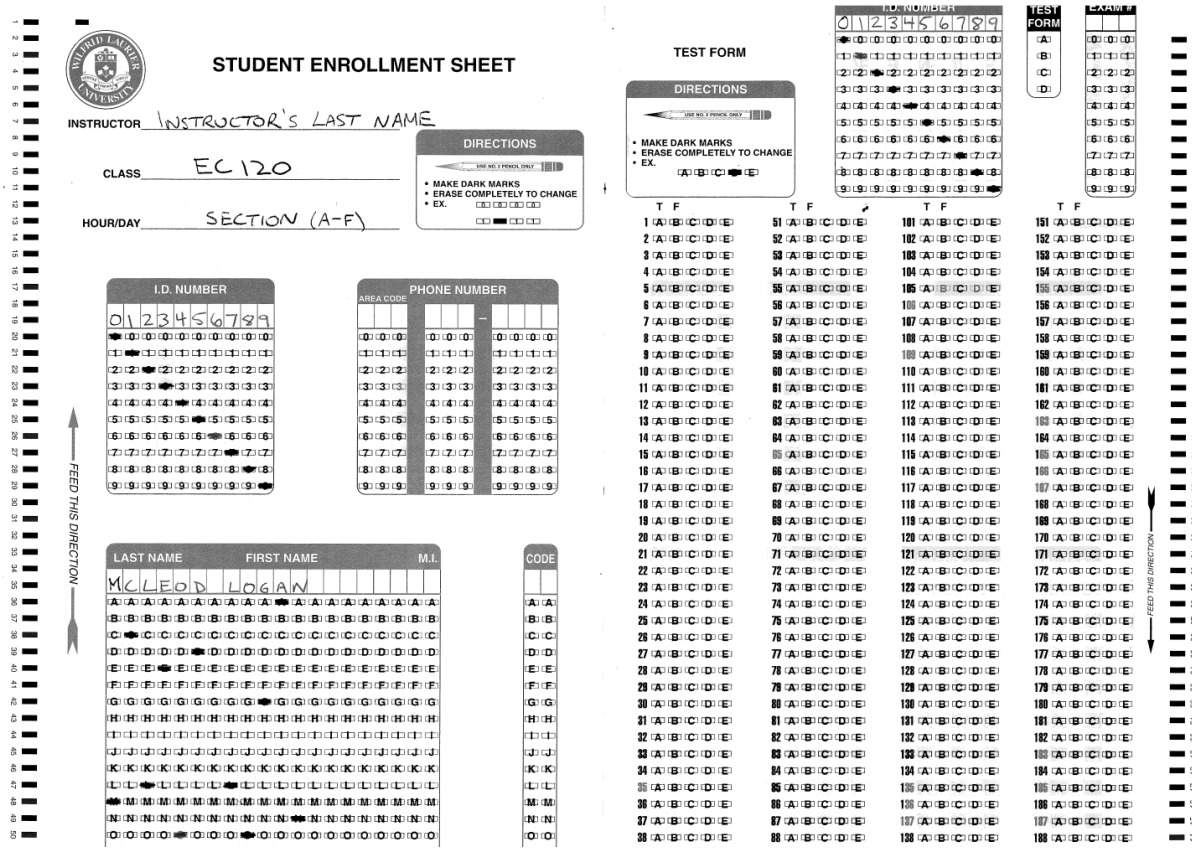
Section	Day	Time	Instructor's Last Name
A	Monday/Wednesday	11:30am	McLeod
B	Tuesday/Thursday	8:30am	Jackson
C	Tuesday/Thursday	1:00pm	Jackson
D	Tuesday/Thursday	2:30pm	Rabi
E	Monday/Wednesday	1:00pm	McLeod
F	Monday/Wednesday	5:30pm	Ariizumi
G	Wednesday	7:00pm	Dean

Good Luck!

Instructions for completing the Student Enrolment Sheet (aka. Scantron Card)

On the **FRONT** of your computer card, use a dark lead pencil to complete the following:

Element	Content
Instructor	*Your Instructor's Last Name*
Class	EC120
Hour/Day	*Your section letter (A-G)*
I.D. Number	your student ID (one digit per rectangle, starting at far left column) UW Students: add a '0' to the end of your student #
Phone Number	leave blank
Last Name/First Name	your last name (one letter per rectangle) starting at far left column, then leave one space empty, then your first name (one letter per rectangle)
Code	*leave blank*



On the **BACK** of your scantron card use a dark lead pencil to complete the following:

Element	Content
I.D. Number	your student ID (one digit per rectangle, starting at far left column) UW Students: add a '0' to the end of your student #
Test Form	*leave blank*
Exam #	*leave blank*

1 Multiple Choice [55 marks total, 1 mark per question]

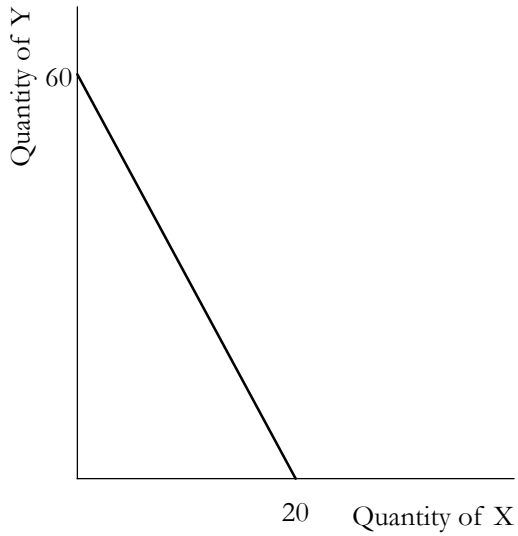
1. Market demand is given as $Q^D = 60 - P$. Market supply is given as $Q^S = 3P$. In a perfectly competitive equilibrium, what will be the value of consumer surplus?

   (a) \$675.00
   (b) \$1,012.50
   (c) \$1,350.15
   (d) \$2,025.00

2. Refer to Figure 1. What is the price of good Y relative to good X (i.e., P_Y/P_X)?

   (a) 1/4
   (b) 1/3
   (c) 3/4
   (d) 3/1

Figure 1:



3. Refer to Figure 1. If income is equal to \$120, what is the price of good X?

   (a) \$1
   (b) \$2
   (c) \$3
   (d) \$6

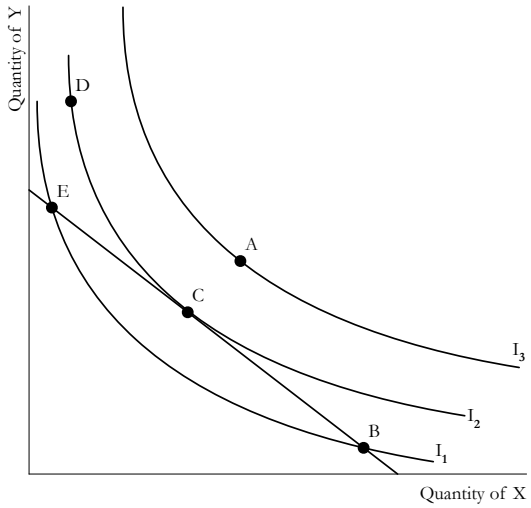
4. Market demand is given as $Q^D = 60 - P$. Market supply is given as $Q^S = 3P$. If price increases from \$4 to \$8, what is the price elasticity of demand?

   (a) 0.1
   (b) 0.8
   (c) 1.9
   (d) 2.3

5. Refer to Figure 2. The consumer is likely to select the consumption bundle associated with which point?

   (a) point A
   (b) point B
   (c) point C
   (d) point D

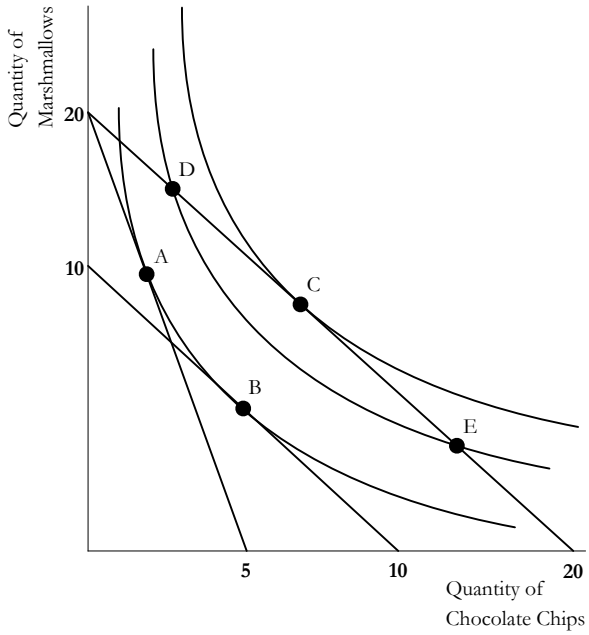
Figure 2:



6. Refer to Figure 2. When would it be possible for the consumer to reach I_3?

   (a) if the price of Y increased
   (b) if the price of X increased
   (c) if his income increased
   (d) if his preferences changed

Figure 3:



7. Refer to Figure 3. If point B is the consumer's optimum and the price of chocolate chips is \$3 per bag, what is the price of a bag of marshmallows?

   (a) \$1.50
   (b) \$2.70
   (c) \$3.00
   (d) \$6.00

8. Refer to Figure 3. Assume that the consumer depicted has an income of \$100 and currently optimizes at point A. When the price of chocolate chips decreases to \$5, where is the new optimum?

   (a) Point A
   (b) Point B
   (c) Point C
   (d) Point D

9. Refer to Figure 3. Suppose the consumer begins at A. The income and substitution effects of the reduction in the price of chocolate chips are represented as follows:

   (a) the distance from point B to point C shows the substitution effect and the distance from point B to point C also shows the income effect.
   (b) the distance from point B to point D shows the substitution effect and the distance from point B to point E shows the income effect.
   (c) the distance from point A to point B shows the income effect and the distance from point B to point C shows the substitution effect.
   (d) the distance from point B to point C shows the income effect and the distance from point A to point B shows the substitution effect.

10. Assume your mother purchased two pairs of identical gloves for your birthday. What, in this case, do "left" gloves and "right" gloves provide a good example of?

    (a) perfect substitutes
    (b) perfect complements
    (c) negatively sloped indifference curves
    (d) positively sloped indifference curves

11. Refer to Figure 4. What was consumer surplus before the tax was levied?

    (a) \$45
    (b) \$75
    (c) \$125
    (d) \$150

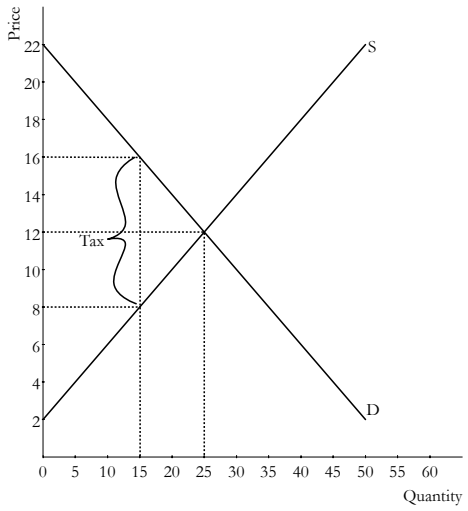
12. Refer to Figure 4. What would consumer surplus be after the tax is levied?

    (a) \$45
    (b) \$75
    (c) \$125
    (d) \$150

13. Refer to Figure 4. What is the amount of deadweight loss in this market resulting from the levying of the tax on the buyer?

    (a) \$20
    (b) \$30
    (c) \$40
    (d) \$50

Figure 4:



14. Suppose policymakers are considering placing a tax on either of two markets. In Market A, the tax will have a significant effect on the price consumers pay, but it will not affect equilibrium quantity very much. In Market B, the same tax will have only a small effect on the price consumers pay, but it will have a large effect on the equilibrium quantity. In which market will the tax have a larger deadweight loss?

    (a) Market A because the demand of the market is relatively inelastic

    (b) Market B because the demand of the market is relatively elastic

    (c) Market A because the demand of the market is relatively elastic

    (d) Market B because the demand of the market is relatively inelastic

15. What happens if a government reduces a high tax rate?

    (a) Reducing a high tax rate is less likely to increase tax revenue than reducing a low tax rate.

    (b) Reducing a high tax rate is more likely to increase tax revenue than reducing a low tax rate.

    (c) Reducing a high tax rate will have the same effect on tax revenue as reducing a low tax rate.

    (d) Reducing a tax rate can never increase tax revenue.

16. The world price of yo-yos is \$4.00 each. The pre-trade price of yo-yos in Taiwan is \$3.50 each. What would happen if Taiwan allows trade in yo-yos?

    (a) Taiwan will import yo-yos, and the price in Taiwan will be \$4.00 each.

    (b) Taiwan will import yo-yos, and the price in Taiwan will be \$3.50 each.

    (c) Taiwan will export yo-yos, and the price in Taiwan will be \$4.00 each.

    (d) Taiwan will export yo-yos, and the price in Taiwan will be \$3.50 each.

17. Aquilonia has decided to end its policy of not trading with the rest of the world. When it ends its trade restrictions, it discovers that it is importing incense, exporting steel, and neither importing nor exporting rugs. What are the effects?

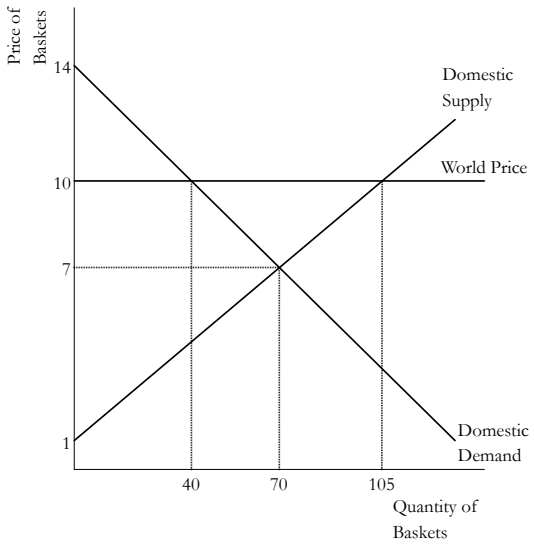
    (a) Domestic producers of incense are now better off, and consumers of incense are worse off; producers of steel are worse off, and consumers of steel are better off; both producers and consumers of rugs are unaffected.

    (b) Domestic producers of incense are now worse off, and consumers of incense are better off; producers of steel are better off, and consumers of steel are worse off; both producers and consumers of rugs are unaffected.

    (c) Domestic producers of incense are now worse off, and consumers of incense are better off; producers of steel are worse off, and consumers of steel are better off; both producers and consumers of rugs are unaffected.

    (d) Domestic producers of incense, steel, and rugs are worse off and consumers of incense, steel and rugs are better off. This is because trade always harms producers and helps consumers.

Figure 5:



18. Refer to Figure 5. Without trade, what would consumer surplus be?

    (a) $210
    (b) $245
    (c) $420
    (d) $455

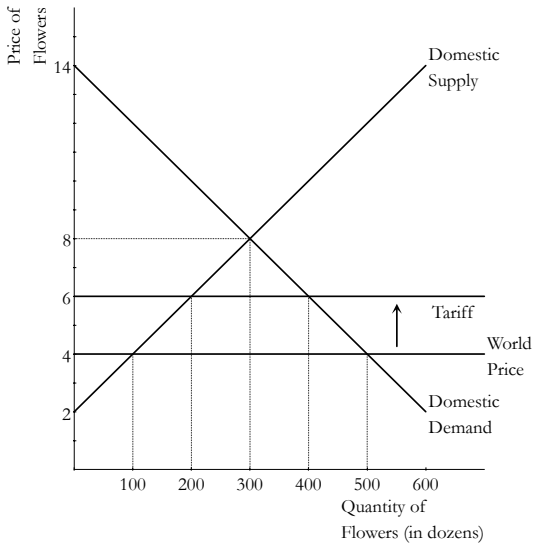
19. Refer to Figure 5. If this country chooses to trade, what would the price of baskets in this country be and how many would be sold domestically?

    (a) $7 and 70 would be sold domestically
    (b) $10 and 40 would be sold domestically
    (c) $10 and 70 would be sold domestically
    (d) $10 and 105 would be sold domestically

20. Refer to Figure 5. What occurs at the world price?

    (a) The domestic quantity demanded is greater than the domestic quantity supplied.
    (b) The basket market is in equilibrium.
    (c) The demand curve is perfectly inelastic.
    (d) Both domestic producers and consumers will be better off.

Figure 6:



21. Refer to Figure 6. What is the amount of deadweight loss caused by the tariff?

    (a) $100
    (b) $200
    (c) $300
    (d) $400

22. Refer to Figure 6. When the tariff is imposed, how much do consumers gain or lose?

    (a) lose $500
    (b) lose $900
    (c) gain $500
    (d) gain $900

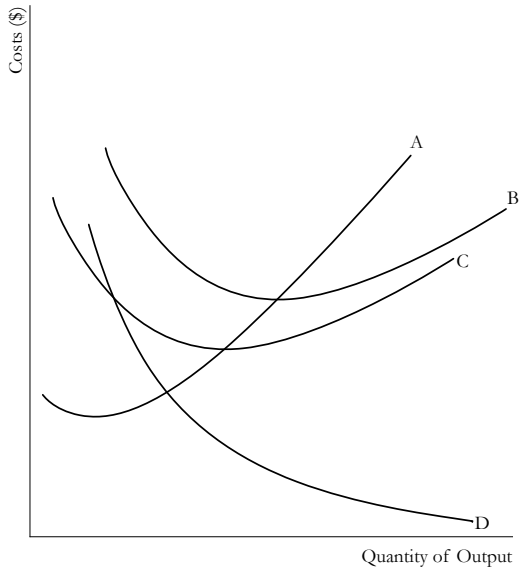
23. At Bert's Bootery, the total cost of producing 20 pairs of boots is $400. The marginal cost of producing the 21st pair of boots is $83. What is the average total cost of 21 pairs of boots?

    (a) $20
    (b) $21.50
    (c) $23
    (d) $83

24. When marginal cost is rising, what must happen to average variable cost?

    (a) It must be rising.
    (b) It must be falling.
    (c) It must be constant.
    (d) It could be rising or falling.

Figure 7: The curves reflect information about the average total cost, average fixed cost, average variable cost, and marginal cost for a firm.



25. Refer to Figure 7. When is this firm necessarily experiencing increasing marginal product?
    (a) when curve A is falling
    (b) when curve B is falling
    (c) when curve C is falling
    (d) when curve D is falling

26. Refer to Figure 7. Why is curve A U-shaped?
    (a) because of diminishing marginal product
    (b) because of increasing marginal product
    (c) because of the fact increasing marginal product follows decreasing marginal product
    (d) because of the fact decreasing marginal product follows increasing marginal product

27. Refer to Figure 7. Which of the curves is most likely to represent average fixed cost?
    (a) Curve A
    (b) Curve B
    (c) Curve C
    (d) Curve D

28. Refer to Figure 7. Which of the curves is most likely to represent average variable cost?
    (a) Curve A
    (b) Curve B
    (c) Curve C
    (d) Curve D

Table 1:

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

29. From the information in Table 1, what can we conclude about Bob's average variable cost?

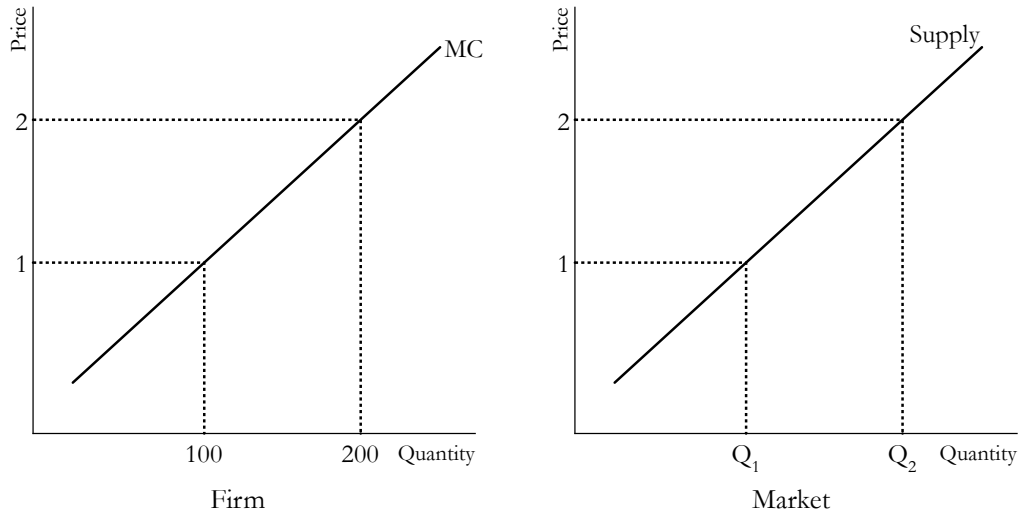
    (a) It decreases as output rises from 0 to 10, but rises after that.

    (b) It decreases as output rises from 0 to 26, but rises after that.

    (c) It decreases as output rises from 0 to 33, but increases after that.

    (d) It decreases continually as output rises.

Figure 8:



30. Refer to Figure 8. If at a market price of \$1.75, 52,500 units of output are supplied to this market. How many identical firms are participating in this market?

    (a) 75

    (b) 100

    (c) 250

    (d) 300

There are 500 identical firms in a competitive market. The firms do not use any resources that are available in limited quantities, and all of them have the following cost structure:

Table 2:

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

31. Refer to Table 2. What is the shape of the long-run supply curve for this market?
    (a) horizontal at a price of \$2.00
    (b) horizontal at a price of \$3.33
    (c) horizontal at a price of \$5.00
    (d) horizontal at a price of \$7.00

32. Market demand is given as $Q^D = 40 - 2P$. Market supply is given as $Q^S = 2P$. Each identical firm has $MC = 5Q$ and $ATC = 2.5Q$. What quantity of output will a typical firm produce?
    (a) 2
    (b) 4
    (c) 5
    (d) 10

33. Market demand is given as $Q^D = 40 - 2P$. Market supply is given as $Q^S = 2P$. Each identical firm has $MC = 5Q$ and $ATC = 2.5Q$. What is a firms average total cost?
    (a) \$2.00
    (b) \$2.50
    (c) \$5.00
    (d) \$25.00

34. Susan quit her job as a teacher, which paid her \$36,000 per year, in order to start her own catering business. She spent \$12,000 of her savings, which had been earning 10 percent interest per year, on equipment for her business. She also borrowed \$12,000 from her bank at 10 percent interest per year, which she also spent on equipment. For the past several months she has spent \$1,000 per month on ingredients and other variable costs. Also, for the past several months she has taken in \$3,500 in monthly revenue. What should Susan do in the short run and the long run?
    (a) In the short run, Susan should shut down her business, and in the long run, she should exit the industry.
    (b) In the short run, Susan should continue to operate her business, but in the long run she should exit the industry.
    (c) In the short run, Susan should continue to operate her business, but in the long run, she will probably face competition from newly entering firms.
    (d) In the short run, Susan should continue to operate her business, and she is also in long-run equilibrium.

Scenario 1:
Assume a certain firm is producing 1000 units of output (so $Q = 1000$). At $Q = 1000$, the firm's marginal cost equals \$15 and its average total cost equals \$11. The firm sells its output for \$12 per unit.

35. Refer to Scenario 1. At $Q = 999$, what is the firm's total cost?

    (a) \$10,985
    (b) \$10,990
    (c) \$10,995
    (d) \$10,999

36. Refer to Scenario 1. At $Q = 999$, what is the firms profit?

    (a) \$993
    (b) \$997
    (c) \$1003
    (d) \$1007

37. Refer to Scenario 1. To maximize its profit, what should the firm do?

    (a) It should shut down.
    (b) It should decrease its output, but continue to produce.
    (c) It should continue to produce 1000 units.
    (d) It should increase its output.

38. XYZ Corporation produced 300 units of output but sold only 275 of the units it produced. The average cost of production for each unit of output produced was \$100. Each of the 275 units sold was sold for a price of \$95. What would total revenue for XYZ Corporation be?

    (a) -\$3,875
    (b) \$3,875
    (c) \$26,125
    (d) \$28,500

39. Let L represent the number of workers hired by a firm and let Q represent that firms quantity of output. Assume two points on the firms production function are (L = 12, Q = 122) and (L = 13, Q = 130). What is the marginal product of the 13th worker?

    (a) 8 units of output
    (b) 10 units of output
    (c) 122 units of output
    (d) 130 units of output

Scenario 2:
Tony is a wheat farmer, but he also spends part of his day teaching guitar lessons. Due to the popularity of his local country western band, Tony has more students requesting lessons than he has time for if he is to also maintain his farming business. Tony charges $25 an hour for his guitar lessons. One spring day, he spends 10 hours in his fields planting $130 worth of seeds on his farm. He expects that the seeds he planted will yield $300 worth of wheat.

40. Refer to Scenario 2. What is the total opportunity cost Tony incurred for his spring day in the field planting wheat?

    (a) $130
    (b) $250
    (c) $300
    (d) $380

41. Refer to Scenario 2. What is Tonys economic profit?

    (a) -$130
    (b) -$80
    (c) $130
    (d) $170

Table 3:

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

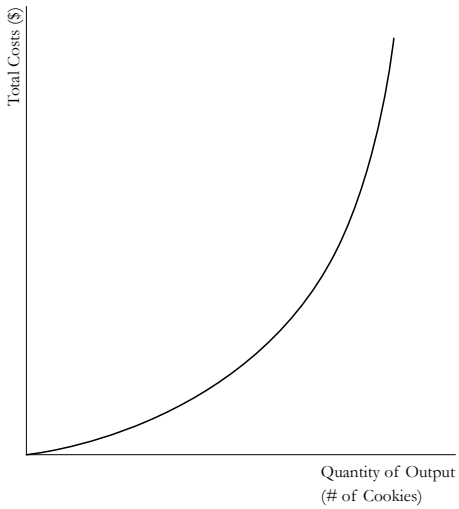
42. Refer to Table 3. What is the average fixed cost of producing five widgets?

    (a) $1.00
    (b) $2.00
    (c) $3.00
    (d) $4.00

43. Refer to Table 3. What is the average variable cost of producing four widgets?

    (a) $2.00
    (b) $2.50
    (c) $3.33
    (d) $5.00

Figure 9: Total cost function for a firm that produces cookies



44. Refer to Figure 9. What does the changing slope of the total-cost curve reflect?

    (a) decreasing average variable cost

    (b) decreasing average total cost

    (c) decreasing marginal product

    (d) decreasing fixed cost

45. Refer to Figure 9. In general, what is the relationship between input and output of a production function?

    (a) Output increases at a decreasing rate with additional units of input.

    (b) Output increases at an increasing rate with additional units of input.

    (c) Output decreases at a decreasing rate with additional units of input.

    (d) Output decreases at an increasing rate with additional units of input.

46. Assume that Sarah places a $70 value on seeing the Golden Hawks football team play in the finals. She purchases a ticket to the game for $50 but when she arrives at the game she discovers that her ticket is missing. A ticket scalper outside the stadium is selling tickets for $65 dollars. If Sarah purchases a ticket from one of the scalpers for $65, what principle is she best demonstrating?

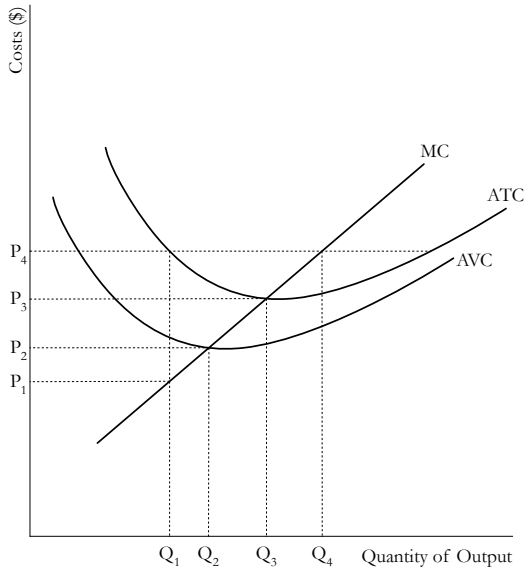
    (a) Sunk costs are irrelevant to many personal decisions.

    (b) The price of tickets cannot be explained by economic principles.

    (c) The assumption of rational behaviour does not easily apply to the purchase of college football game tickets.

    (d) The lost ticket is the opportunity cost of the game.

Figure 10:



47. Refer to Figure 10. When price rises from P_2 to P_3, what does the firm find?
    (a) Marginal cost exceeds marginal revenue at a production level of Q_2.
    (b) If it produces at output level Q_3 it will earn a zero profit.
    (c) If it produces at output level Q_3 it will earn a positive profit.
    (d) Expanding output to Q_4 would leave the firm with losses.

48. Refer to Figure 10. When price falls from P_3 to P_1, which of the following does the firm find?
    (a) It should produce Q_1 units of output.
    (b) It should produce Q_3 units of output.
    (c) Fixed cost is higher at a production level of Q_1 than it is at Q_3.
    (d) It is unwilling to produce any output.

49. A firm's marginal cost has a minimum value of \$2; its average variable cost has a minimum value of \$4; and its average total cost has a minimum value of \$5. At what product price will the firm shut down?
    (a) below \$1
    (b) below \$2
    (c) below \$4
    (d) below \$5

50. In a particular market, there are 500 firms. Each firm has a marginal cost of \$30 when it produces 200 units of output. What is one point on the market supply curve?
    (a) (Quantity = 500, Price = \$30)
    (b) (Quantity = 500, Price = \$15,000)
    (c) (Quantity = 100,000, Price = \$30)
    (d) (Quantity = 100,000, Price = \$15,000)

51. Consider a competitive market with a large number of identical firms. What happens to the price if the demand increases in this market?

    (a) Price will increase in the short run then fall back to its original level in the long run.

    (b) Price will decrease in the short run then rise to its original level in the long run.

    (c) Price will increase in the short run then rise even more in the long run.

    (d) Price will decrease in the short run then fall even more in the long run.

52. What happens to the long-run equilibrium in the competitive market?

    (a) In long-run equilibrium, marginal firms make a positive economic profit.

    (b) To maximize profit, firms should produce at a level of output where price equals marginal revenue.

    (c) The amount of gold in the world is limited; therefore, the gold jewellery market probably has a long-run supply curve that is upward sloping.

    (d) Long-run supply curves are typically less elastic than short-run supply curves.

53. Denmark is an importer of computer chips and is also a price taker in the chip market. The world price of these computer chips is $12. If Denmark imposes a $5 tariff on chips, what would be the price of computer chips and what will happen to the quantity purchased?

    (a) $7 and the quantity purchased will increase

    (b) $7 and the quantity purchased will fall

    (c) $12 and the quantity purchased will fall

    (d) $17 and the quantity purchased will fall

54. Assume that a college student spends all of her income on cola and candy bars. During exam week, the price of a candy bar is $0.75 and a can of cola costs $1.00. If she has $20 of income, what could she choose to consume?

    (a) 4 candy bars and 17 cans of cola

    (b) 7 candy bars and 16 cans of cola

    (c) 8 candy bars and 15 cans of cola

    (d) 10 candy bars and 12 cans of cola

55. Dolores used to work as a high school teacher for $40,000 per year but quit in order to start her own catering business. To buy the necessary equipment, she withdrew $20,000 from her savings (which paid 3 percent interest per year) and borrowed $30,000 from her uncle, to whom she pays 3 percent interest per year. Last year she paid $25,000 for ingredients and had revenue of $60,000. She asked Louis, an accountant, and Greg, an economist, to calculate her profit for her. What did they say?

    (a) Louis said her profit was $34,100, and Greg said she lost $6,500.

    (b) Louis said her profit was $34,100, and Greg said her profit was $6,500.

    (c) Louis said her profit was $35,000, and Greg said she lost $5,000.

    (d) Louis said her profit was $33,500, and Greg said her profit was $33,500.