**McMaster University Department of Economics**
**ECON 1B03**
**Fall 2016**

# Practice Final Exam

**Chapters 8 - 13**
**60 minutes**
**Instructor: H Holmes**

## MULTIPLE CHOICE

Answer all questions on the scan sheet using HB pencil.
Calculators are permitted.
Hand in the scan and this sheet separately.

**TOTAL MC MARKS AVAILABLE: 25**

NAME:_____

STUDENT #:_____

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

**Scenario 1**

Rita consumes 3 goods: Good X, Good Y and Good Z. The prices of the goods are:
$P_X$ = \$7
$P_Y$ = \$2.50
$P_Z$ = \$5

The table below shows the total utilities Rita receives from consuming various quantities of the three goods:

| QUANTITY | GOOD X $TU_x$ | | GOOD Y $TU_y$ | | GOOD Z $TU_z$ | |
|---|---|---|---|---|---|---|
| 0 | 0 | | 0 | | 0 | |
| 1 | 20 | | 5 | | 18 | |
| 2 | 34 | | 17 | | 30 | |
| 3 | 42 | | 21 | | 40 | |

1. **Refer to Scenario 1.** Assume that Rita wants to maximize her total utility. What is Rita's optimal consumption bundle?
   a. 2X, 4Y, 5Z
   b. 3X, 2Y, 2Z
   c. 4X, 2Y, 4Z
   d. 2X, 1Y, 3Z

2. **Refer to Scenario 1.** How much does Rita spend on her purchases of the three goods?
   a. \$59.00
   b. \$49.00
   c. \$31.50
   d. \$36.00

3. **Refer to Scenario 1.** Suppose Rita only wants to consume Good X and Good Z. If we graph Rita's budget constraint with Good X on the horizontal axis, what would be the |slope| of her budget constraint?
   a. 0.72
   b. 1.25
   c. 1.4
   d. -1

4. **Refer to Scenario 1.** Suppose that Rita now consumes only Good X and Good Z, and Good X is on the horizontal axis, what is the opportunity cost of Good X?
   a. 0.42 X
   b. 1.25 Z
   c. 1.4 Z
   d. 1 Z

5. **Refer to Scenario 1.** Suppose that Rita now only purchases Good X and Good Y and that the goods are substitutes (but not perfect substitutes) and normal goods. What is true about the indifference curves for both goods?
   a. The curves are convex to the origin.
   b. The curves are L-shaped.
   c. The curves are linear.
   d. The curves intersect at the optimal bundle.

6. **Refer to Scenario 1.** Suppose that Rita now only purchases Good X and Good Y and that the goods are substitutes (but not perfect substitutes) and normal goods. Which statement is always true?
   a. A bundle (2X, 2Y) has a higher total utility than a bundle (2X, 3Y).
   b. A bundle (3X, 3Y) has a higher total utility than a bundle (2X, 2Y).
   c. A bundle (2X, 2Y) has a higher total utility than a bundle (1X, 3Y).
   d. Both b and c are always true.

**Scenario 2**

Market demand for a monopoly good is given by P = 160 - Q . A monopolist seller has MR = 160 - 2Q. The marginal cost of the good is constant at MC = 10 and ATC = 10.

7. **Refer to Scenario 2.** What will be the quantity produced and price charged by a profit-maximizing monopolist?
   a. Q = 20 and P = $150
   b. Q = 80 and P = $80
   c. Q = 75 and P =$85
   d. Q = 75 and P = $10

8. **Refer to Scenario 2.** Suppose the monopoly can perfectly price discriminate. What will be the value of its producer surplus?
   a. $11,250
   b. $22,500
   c. $12,000
   d. $0

9. **Refer to Scenario 2.** Suppose the monopoly can perfectly price discriminate. What is the deadweight loss due to monopoly?
   a. $2812.50
   b. $5625
   c. $0
   d. $50

10. Which statement about a monopoly is true?
    a. Its demand curve is more inelastic than a perfectly competitive firm's demand curve.
    b. It charges a price P < MR.
    c. Its supply curve is its MC curve above AFC, unlike a perfectly competitive firm's supply curve which is its MC above minimum AVC.
    d. All of the above are true.

11. In order for a monopolist to sell more of its product, what must it do?
    a. It must sell internationally.
    b. It must sell to governments.
    c. It must sell online.
    d. It must sell its good at a lower price.

**Scenario 3**

In Eastgate Square, Koodo faces weekly demand for its newest cellphones given by P = 700 - Q. Koodo has MR = 700 - 2Q and MC = 200 = ATC.

12. **Refer to Scenario 3.** Koodo could best be found in which market structure?
    a. perfect competition
    b. monopoly
    c. monopolistic competition
    d. either a or c

13. **Refer to Scenario 3.** What is Koodo's short run weekly profit?
    a. $112,500
    b. $0
    c. $50,000
    d. $62,500

14. **Refer to Scenario 3.** What would be Koodo's long run profit?
    a. $50,000
    b. $0
    c. $62,500
    d. None of the above.

15. **Refer to Scenario 3.** Which statement below is true?
    a. Koodo will sell more output than a perfectly competitive firm but less than a monopoly.
    b. Koodo will sell more output than both a perfectly competitive firm and a monopolistically competitive firm.
    c. Koodo will sell less output than both a monopolistically competitive firm and an oligopoly.
    d. Koodo will sell more output than an oligopoly but less than a perfectly competitive firm.

16. **Refer to Scenario 3.** How could we determine if there were the "wrong" number of firms in Koodo's industry?
    a. if the price effect outweighs the income effect
    b. if the business stealing externality is lower than the product variety externality
    c. if there is a deadweight loss
    d. if there are firms earning zero economic profits

**Scenario 4**

Market demand in a perfectly competitive market is given as Qd = 705 – 7.5P. Market supply is given as Qs = 16P. Each identical firm has MC = 3Q and ATC = 1.5Q.

17. **Refer to Scenario 4.** What quantity of output will a typical firm produce?
    a. 5
    b. 10
    c. 30
    d. 60

18. **Refer to Scenario 4.** What is a firm's average total cost?
    a. $3
    b. $6
    c. $15
    d. $30

19. **Refer to Scenario 4.** What is a firm's profit?
    a. $25
    b. $30
    c. $75
    d. $150

20. **Refer to Scenario 4.** How many firms are there in the industry?
    a. 10
    b. 30
    c. 48
    d. 24

**Scenario 5.** Hamlin's Hair Supplies manufactures special scissors which it wholesales to salons like First Choice, etc. Hamlin's sells its scissors for $10.00 each. The going wage is $500 per week per worker.

The following table reports hourly output for varying numbers of workers:

| Number of Workers | Output | MP of Labour | MRP of Labour | Weekly Wage |
|---|---|---|---|---|
| 0 | 0 | | | |
| 1 | 100 | | | $500 |
| 2 | 180 | | | 500 |
| 3 | 240 | | | 500 |
| 4 | 280 | | | 500 |
| 5 | 300 | | | 500 |

21. **Refer to Scenario 5.** At the going wage rate, how many workers will Hamlin's hire?
    a. 1
    b. 2
    c. 3
    d. 4

22. **Refer to Scenario 5.** If the selling price of scissors doubled, would Hamlin hire 5 workers?
    a. yes; the 5th worker would add $100 to his profit.
    b. no; the 5th worker would cost $100 more each week than she contributed to profit.
    c. yes; Hamlin would add $6000 to weekly revenues.
    d. no; Hamlin's wage bill would be $2500 per week instead of $1250.

23. **Refer to Scenario 5.** The MRP of the 4th worker when the selling price of the good is $10 is:
    a. $1000
    b. $800
    c. $600
    d. $400

24. A firm is deciding between two new technologies for its plant. Technology A costs $30,000 and has a life expectancy of 5 years with an expected MRP of $11,000. Technology B also costs $30,000 and has a life expectancy of 6 years with an expected MRP of $9,200. The interest rate is 6%. Which technology will the firm purchase and why?
    a. Technology A: has the higher present value of $45,239.38
    b. Technology A: has the higher present value of $46,336.00
    c. Technology B: has the longer lifespan
    d. Technology B: has the higher present value of $46,336.00

**Scenario 6**

A monopolist faces market demand given by P = 60 – Q. For this market, MR = 60 – 2Q and MC = 2Q.

25. **Refer to Scenario 6.** What quantity of output will the monopolist produce in order to maximize profits?
    a. 25
    b. 15
    c. 18
    d. 21

26. **Refer to Scenario 6.** What price will the monopolist charge in order to maximize profits?
    a. $30
    b. $15
    c. $45
    d. $60

27. **Refer to Scenario 6.** What is the deadweight loss due to the monopoly?
    a. $37.50
    b. $75.00
    c. $117.50
    d. $337.50

28. When an industry is a natural monopoly, what can we expect?
    a. It is characterized by constant returns to scale.
    b. One firm can supply the market at a lower average cost than many firms.
    c. Governments have no reason to regulate the industry.
    d. All of the above.

29. Consider a profit-maximizing monopoly pricing under the following conditions: The profit-maximizing price charged for goods produced is $20.The intersection of the marginal revenue and marginal cost curves occurs where output is 50 units and marginal cost is $6. The socially efficient level of production is 120 units. The demand curve and marginal cost curves are linear. What is the deadweight loss?
    a. $14
    b. $980
    c. $1680
    d. $490

**Scenario 7**

Demand for an online magazine subscription is given below. The marginal cost of selling an additional subscription is zero.

| Quantity | Price |
|---|---|
| 0 | $36 |
| 200 | $33 |
| 400 | $30 |
| 600 | $27 |
| 800 | $24 |
| 1000 | $21 |
| 1200 | $18 |
| 1400 | $15 |
| 1600 | $12 |
| 1800 | $ 9 |
| 2000 | $ 6 |
| 2200 | $ 3 |
| 2400 | $ 0 |

30. **Refer to Scenario 7**. If there is only one online magazine seller in this market, what price would it charge for a subscription to maximize its profit?
    a. $24
    b. $21
    c. $18
    d. $15

31. **Refer to Scenario 7**. Assume that there are two online magazine companies operating in this market. If they are able to collude on price and quantity of subscriptions to sell, what price P will they charge, and what quantity Q of subscriptions will they each sell?
    a. P = $24, Q = 800
    b. P = $21, Q = 500
    c. P = $18, Q = 600
    d. P = $15, Q = 1400

32. **Refer to Scenario 7**. Assume that there are two profit-maximizing online magazine companies operating in this market. Further assume that they are not able to collude on price and quantity of subscriptions to sell. For simplicity, each firm can change the number o subscriptions it can sell only in lots of 200 subscriptions. How many subscriptions will be collectively sold (in total by both firms) when this market reaches a Nash equilibrium?
    a. 1000
    b. 1200
    c. 1400
    d. 1600

33. **Refer to Scenario 7**. Assume that there are two profit-maximizing online magazine companies operating in this market. Further assume that they are <u>not</u> able to collude on price and quantity of subscriptions to sell. For simplicity, each firm can change the number of subscriptions it can sell only in lots of 200 subscriptions. How much profit will each firm earn when this market reaches a Nash equilibrium?
    a. $9,600
    b. $16,800
    c. $9,000
    d. $12,000

34. **Refer to Scenario 7**.Assume that there are <u>three</u> profit-maximizing online magazine companies operating in this market. Further assume that they <u>are</u> able to collude on price and quantity of subscriptions to sell. How much profit will each company make?
    a. $12,000
    b. $9,000
    c. $10,800
    d. $7,200

**Scenario 8**

Crackerjack's Grille and the Pine Hotel are competing taverns in a mid-sized community. They are considering whether to stay open late or close early for business on Canada Day. The owners of both restaurants would really enjoy having some time off, so both choices are viable options for them.

The matrix below shows the profits from each of their strategies:

| | | **Crackerjack's** | |
|---|---|---|---|
| | | Close Early | Stay Open Late |
| **Pine Hotel** | Close Early | (1000, 925) | (660, 1050) |
| | Stay Open Late | (1200, 675) | (980, 875) |

35. **Refer to Scenario 8**. What is the Nash Equilibrium for the Canada Day game?
    a. Both close early.
    b. Both stay open late.
    c. Crackerjack's stays open late; Pine Hotel closes early.
    d. Crackerjack's closes; early Pine Hotel stays open late.

36. **Refer to Scenario 8**. What is the optimal outcome for the game?
    a. Both close early.
    b. Both stay open late.
    c. Crackerjack's closes early; Pine Hotel stays open late..
    d. Pine Hotel closes early; Crackerjack's stays open late..

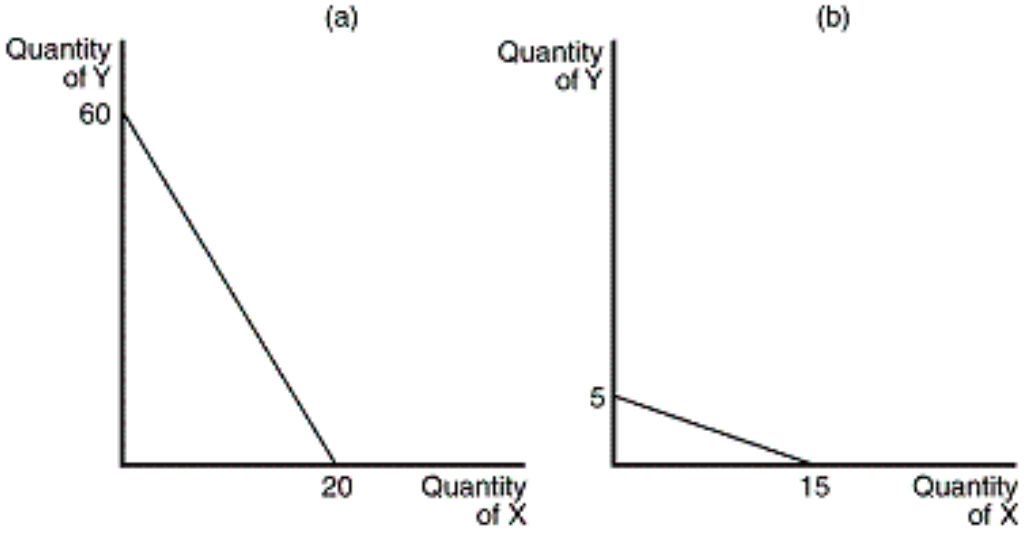
37. For markets characterized by oligopoly, what do we know?
    a. The oligopolists are best off cooperating and behaving like a monopolist.
    b. Collusive agreements usually will not prevail because there is temptation to cheat.
    c. Collective profits are always lower with cartel arrangements than they are without cartel arrangements.
    d. Both a and b.

38. When an industry has many firms, the industry may be which of the following possibilities?
    a. It is an oligopoly if the firms sell differentiated products; it is monopolistically competitive if the firms sell identical products.
    b. It is an oligopoly if the firms sell differentiated products; it is perfectly competitive if the firms sell identical products.
    c. It is monopolistically competitive if the firms sell differentiated products; it is perfectly competitive if the firms sell identical products.
    d. It is perfectly competitive if the firms sell differentiated products; it is monopolistically competitive if the firms sell identical products.

39. What determines the slope of the consumer's budget constraint?
    a. the relative price of commodities represented on the axes
    b. the level of income of the consumer
    c. the endowment of productive resources
    d. the preferences of a consumer

**Scenario 9**

Consider the following budget constraints on a consumer for two different levels of income:




40. **Refer to Scenario 9**. In graph (a), if income is equal to $120, what is the price of good Y?
    a. $1
    b. $2
    c. $3
    d. $4

41. **Refer to Scenario 9**. In graph (a), if income is equal to $120, what is the price of good X?
    a. $2
    b. $4
    c. $6
    d. $8

42. **Refer to Scenario 9**. Assume that a consumer faces both budget constraints in graph (a) and graph (b) on two different occasions. If her income has remained constant, what has happened to prices?
    a. The price of X in graph (a) is higher than the price of X in graph (b).
    b. The price of Y in graph (a) is higher than the price of Y in graph (b).
    c. The prices of both X and Y are lower in graph (a).
    d. The prices of both X and Y are lower in graph (b).

43. Which relationship represents the consumer's optimum choice?
    a. $MU_X/MU_Y = P_Y/P_X$
    b. $MU_X/P_Y = MU_Y/P_X$
    c. $MRS_{XY} = P_Y/P_X$
    d. $MU_X/P_X = MU_Y/P_Y$

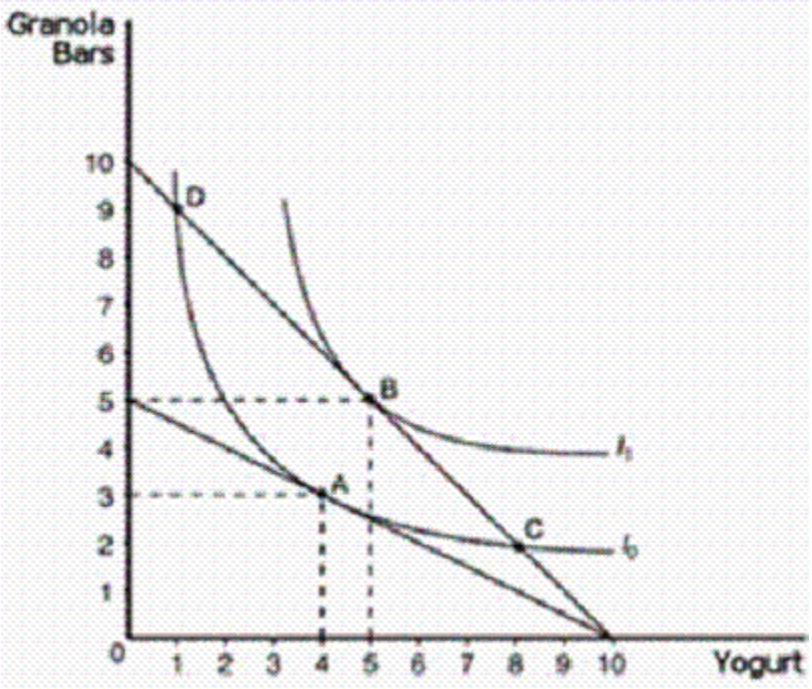
44. Which statement is true for monopolistic competition?
    a. The total output level equals the output level that would prevail in a competitive market.
    b. The total output level equals the output level that would prevail in a monopoly.
    c. The total output level exceeds the monopoly level, but falls short of the competitive level.
    d. The total output level falls short of the monopoly level.

45. As the number of firms in an oligopoly market grows larger, what will the level of output approach?
    a. the level of output that minimizes marginal cost
    b. the perfectly competitive level of output
    c. infinity
    d. the monopoly level of output

46. How does equilibrium quantity in markets characterized by oligopoly compare with that in monopolies and monopolistically competitive markets?
    a. It is higher than in monopoly markets and higher than in monopolistically competitive markets.
    b. It is higher than in monopoly markets and lower than in monopolistically competitive markets.
    c. It is lower than in monopoly markets and higher than in monopolistically competitive markets.
    d. It is lower than in monopoly markets and lower than in monopolistically competitive markets.

**Scenario 10**

Consider the following budget constraints and indifference curves for granola bars and yogurt:




47. **Refer to Scenario 10.** Assume that the consumer depicted in the figure has an income of $20 to spend entirely on yogurt and granola bars. The price of a tub of yogurt is $2 and the price of a pack of granola bars is $4. This consumer will choose a consumption bundle where the marginal rate of substitution is equal to which of the following?
    a. 1
    b. 1/2
    c. 2/3
    d. 3

48. **Refer to Scenario 10.** Assume that the consumer depicted in the figure originally faced prices and income such that she optimized at point B. According to the graph, what change would have caused the consumer to move to point A?
    a. an increase in the price of yogurt
    b. an increase in the price of granola bars
    c. a decrease in the price of yogurt
    d. a decrease in the price of granola bars

49. **Refer to Scenario 10.** At point A, what is the relative price of granola bars in terms of yogurt?
    a. 2
    b. 1/2
    c. 1/20
    d. none of the above

50. **Refer to Scenario 10.** What causes the movement from indifference curve $I_0$ to $I_1$ ?
    a. the substitution effect
    b. an increase in the price of yogurt
    c. the income effect
    d. an increase in the consumer's net income