Econ 251
Spring 2016
Exam 2 Pink

Lisa has $30 to spend on bagels and coffee. The price of a bagel is $2 and the price of a cup of coffee is $2.50. The quantity of bagels is measured on the x-axis, and the quantity of cups of coffee is measured on the y-axis. Use this information to answer the following 3 questions.

1. Which of the following equations represents Lisa's budget line? (B=quantity of bagels and C=quantity of coffee)
    a. 30 = 2C+2.5B
    b. 30 = 2.5C + 2B
    c. 15 = C + 2.5B
    d. 12 = C + 0.5B

2. If Lisa purchases 4 cups of coffee and 10 bagels when she maximizes her utility, which of the following must be true?
    a. Lisa's marginal utility of the 4th cup of coffee is equal to her marginal utility of the 10th bagel.
    b. Lisa's marginal utility per dollar spent on the 4th cup of coffee is equal to 12.
    c. Lisa's marginal utility of the 4th cup of coffee is 1.25 times greater than the marginal utility of the 10th bagel.
    d. The slope of Lisa's budget line must be equal to 1.25.

3. If Lisa's income rises to $40, which of the following would you expect to see as a result?
    a. Lisa's budget line will become steeper.
    b. Lisa's budget line will become flatter.
    c. Lisa's budget line will shift outward, but the slope won't change.
    d. Lisa's budget line will shift inward, but the slope won't change.

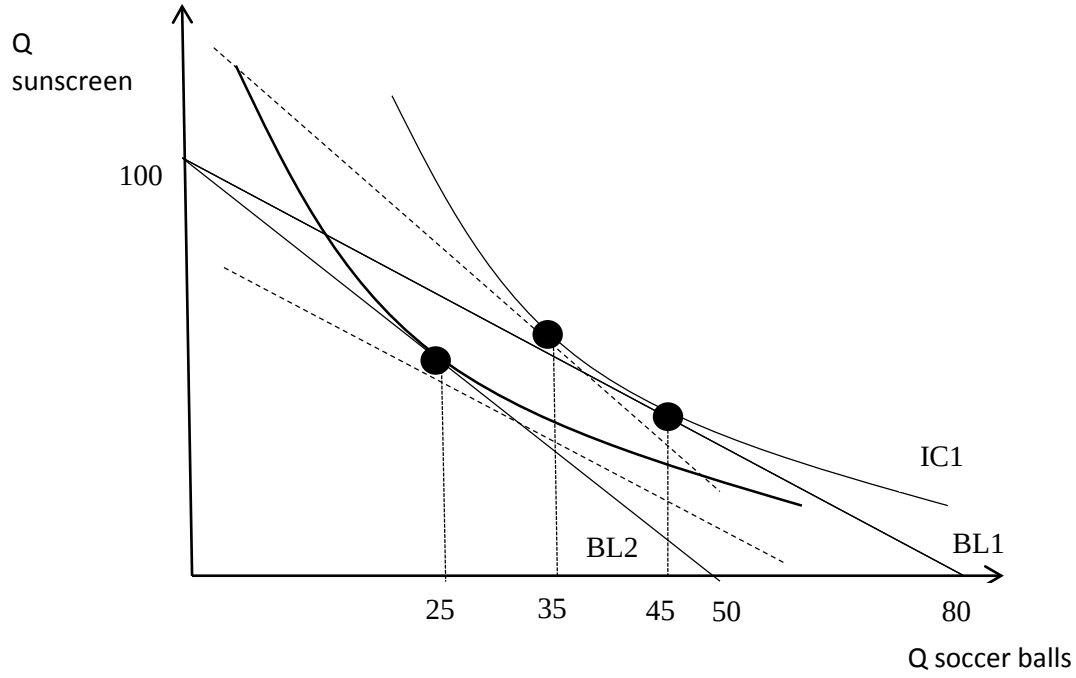
The table below describes the utility Shuly associates with her two favorite foods, zucchini and tomatoes. Zucchini costs $2 each, tomatoes cost $1 each, and she has $10 to spend on zucchini and tomatoes. Use this information to answer the following 2 questions.

Q zucchini	Utility from zucchini	Q tomatoes	Utility from tomatoes
1	18	1	15
2	35	2	25
3	48	3	30
4	59	4	34
5	60	5	36

4. What is Shuly's marginal utility per dollar spent on the 5th zucchini?
    a. 30
    b. 13
    c. 1
    d. 0.5

5. What combination of zucchini and tomatoes maximizes Shuly's utility given her limited budget?
    a. 4 tomatoes and 3 zucchini
    b. 2 tomatoes and 4 zucchini
    c. 4 tomatoes and 4 zucchini
    d. 5 zucchini and 0 tomatoes

The picture below shows Johan's preferences and budget for bottles of sunscreen and soccer balls. Johan has $500 of income to spend on sunscreen and soccer balls. Use this information for the next 5 questions.



6. On budget line B1, what is the relative price of a soccer ball?
    a. $4
    b. $0.80
    c. 1.25 bottles of sunscreen
    d. 0.5 bottles of sunscreen

7. The change from BL1 to BL2 indicates which of the following?
    a. The price of soccer balls decreased from $80 to $50.
    b. The price of soccer balls increased from $1.25 to $2.
    c. The price of soccer balls decreased from $2 to $1.25.
    d. The price of soccer balls increased from $6.25 to $10

8. Which of the following represents a point on Johan's demand curve for soccer balls?
    a. (25, $10)
    b. (25, $2)
    c. (100, $50
    d. (45, $80)

9. The substitution effect of the change in the price of soccer balls ____ the quantity of soccer balls Johan purchases from _____ to _____.
    a. Increases; 25; 45
    b. Increases; 35; 45
    c. Decreases; 45; 35
    d. Decreases; 50; 45

10. Based on the picture above, soccer balls are
    a. Normal goods
    b. Inferior goods
    c. Giffen goods
    d. Complements to sunscreen

11. What is the marginal rate of substitution?
    a. The magnitude of the slope of the budget line
    b. The amount of good y a consumer is willing to give up for one more unit of good x.
    c. The amount by which quantity demanded changes in response to the substitution effect of a price change
    d. The ratio of the prices of two goods

The table below shows the market shares held by wireless carriers in the U.S. in 2015. (Data from www.statista.com)

Cell phone carrier	Market share (%)
Verizon	33
AT&T	34
Sprint	16
U.S. Cellular	1
T-Mobile	16

12. Based on the information in the table above, the four-firm concentration ratio for this industry is _____ and the Herfindahl-Hirschman Index is _____.
    a. 99; 2501
    b. 99; 2502
    c. 99; 2758
    d. 84; 2501

13. If the marginal product of labor is greater than the average product of labor, which of the following would you expect to see as a result?
    a. An increase in average total cost
    b. A decrease in the average product of labor
    c. A decrease in average variable cost
    d. A decrease in marginal cost

The table below provides partial cost information for a firm. Use this information to answer the following 3 questions.

Quantity	AFC	AVC	MC
0	--	--	--
10		10	
20			5
30	30		8
40		15	
50	18	20	

14. What are the firm's fixed costs?
    a. $30
    b. $300
    c. $900
    d. $1,200

15. What is the average total cost of producing 20 units of output?
    a. $7.50
    b. $15
    c. $33
    d. $52.50

16. What is the marginal cost of producing the 40^{th} unit of output?
    a. $37
    b. $15
    c. $10
    d. $5

17. In the long run, if a firm is experiencing economies of scale, which of the following is true?
    a. Higher output reduces the marginal cost of production
    b. Higher output reduces the average cost of production
    c. Higher output reduces the fixed costs of production
    d. All of the above

18. Firms in perfectly competitive industries are called “price takers” because
    a. They can easily adjust the market equilibrium price to maximize their own profit
    b. The market equilibrium price is unaffected by changes in an individual firm’s output
    c. Market demand is equal to the demand curve facing a firm in perfect competition
    d. Each firm is willing to accept any price that a consumer offers.

The table below gives information for a perfectly competitive firm producing scientific calculators. The price charged by the firm is $ 15. Use the information given to answer the following 4 questions.

Quantity	Total cost
0	12
1	20
2	25
3	32
4	43
5	60
6	80

19. What is marginal revenue facing the competitive firm?
    a. $5
    b. $10
    c. $15
    d. $20

20. The profit- maximizing number of calculators produced by the firm is
    a. 4
    b. 3
    c. 4.5
    d. 5

21. The maximum profit for the firm is
    a. $0
    b. $15
    c. $17
    d. $20

22. The firm reaches its shut down point at what price?
    a. $7.50
    b. $6.50
    c. $8
    d. $10

23. Under which of the following circumstances would a perfectly competitive firm earn negative economic profit?
    a. If the firm is currently earning more than it could in its best alternative.
    b. If the price is equal to $25 and the average total cost is equal to $24.
    c. If the price is below the average variable cost.
    d. None of the above

24. If a firm in a perfectly competitive market is earning negative economic profit, what will happen in the long run?
    a. Firms will exit the market, which will raise the market equilibrium price, and profit will rise until it is equal to $0.
    b. Firms will exit the market, which will lower the market equilibrium price, and profit will rise until it is equal to $0.
    c. Firms will enter the market, which will lower the market equilibrium price, and profit will fall until it is equal to $0.
    d. Firms will enter the market, which will raise the market equilibrium price, and profit will rise until it is greater than $0.

25. There are no barriers to entry in _____, but there are barriers to entry in _____.
    a. Monopoly; Perfect competition
    b. Monopoly; Monopolistic competition
    c. Perfect competition; Monopoly
    d. Perfect competition; Monopolistic competition

26. Which of the following is perfectly elastic?
    a. Firm demand in perfect competition
    b. Market demand in perfect completion
    c. Firm demand in monopolistic competition
    d. Market demand in monopoly

27. The airline industry charges different prices for different seats on a plane. This is an example of
    a. perfect competition
    b. monopolistic competition
    c. price discrimination
    d. price–taking behavior

28. A single-price monopoly always produces where
    a. Demand is inelastic
    b. Marginal revenue is equal to 0
    c. Demand is elastic
    d. Marginal revenue is negative

A single-price profit maximizing monopolist faces the following demand and marginal cost curves:

Demand: $Q^d=100-2P$
Marginal cost: $MC=2Q$

Use this information answer the following 5 questions.

29. What equation represents marginal revenue for this monopoly?
    a. MR=100-4P
    b. MR=100-2P
    c. MR=-2Q + 100
    d. MR= -Q + 50

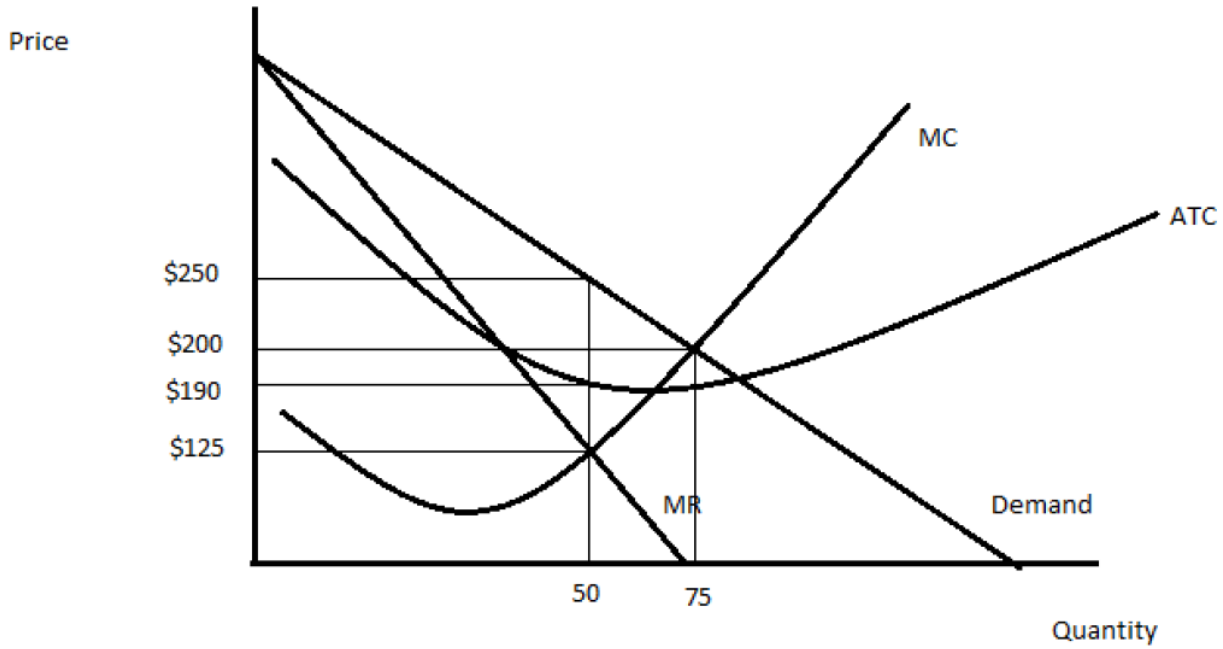
30. When the monopoly maximizes profit, it produces _____ units of output and charges a price equal to _____.
    a. 16.67; $41.67
    b. 20; $40
    c. 16.67; $33.33
    d. 16.67; $40

31. The level of output that satisfies allocative efficiency is
    a. 16.67
    b. 33.33
    c. 20
    d. 40

32. The deadweight loss resulting from monopoly is
    a. $13.89
    b. $2.78
    c. $11.12
    d. $16.67

33. If the monopoly above practices perfect price discrimination, what is the resulting deadweight loss?
    a. $0
    b. $11.12
    c. $13.89
    d. $16.67

34. For a natural monopoly,
    a. When price is regulated to be equal to average cost, the firm produces at allocative efficiency
    b. When price is regulated to be equal to marginal cost, the firm earns positive economic profit
    c. In the long run, when production increases, average cost decreases
    d. All of above



Suppose the firm whose cost and revenue curves are illustrated above operates in a monopolistically competitive market. Use the graph above to answer the following 3 questions.

35. A firm in a monopolistically competitive market maximizes profit in the short run where
    a. P=ATC
    b. P=MC
    c. MR=MC
    d. ATC=MC

36. When profit is maximized, the firm earns how much profit?
    a. $750
    b. $3,000
    c. $6,250
    d. $12,500

37. What level of output would satisfy production efficiency for this firm?
    a. 50
    b. 75
    c. Between 50 and 75
    d. Greater than 75

38. In monopolistic competition,
    a. There are barriers to entry
    b. In the long-run, profit could be positive
    c. All firms are producing identical goods
    d. None of the above

39. Because a monopolistically competitive firm produces a level of output that is below production efficiency, we say that the firm
    a. Produces with excess capacity
    b. Charges a markup
    c. Generates no deadweight loss
    d. Satisfies allocative efficiency

40. Which of the following markets produces where MB=MC in the market in long run?
    a. Perfect competition
    b. Monopoly
    c. Monopolistic competition
    d. All of above