Econ 251
Fall 2016
Exam 2 Pink

1. Nana is trying to decide whether to make another pumpkin pie or pecan pie. The marginal utility she gets from one more pumpkin pie is 10, and the marginal utility she gets from one more pecan pie is 15. If pecan pie costs twice as much to make as pumpkin pie, what should Nana do to maximize her utility given a limited budget?
    a. She should make the pecan pie since it increases her utility more
    b. She should make the pecan pie since it costs more to make
    c. She should make the pumpkin pie since the marginal utility per dollar spent is higher for pumpkin pie than for pecan pie
    d. She should make the pumpkin pie because spending less money always increases utility more

2. In general, when a consumer experiences an increase in income, which of the following occurs?
    a. The budget line becomes steeper
    b. The consumer purchases more of all goods
    c. The budget line shifts outward
    d. The consumer purchases less of all goods

Brennen spends all of his income on red hair dye and Chacos sandals. He has $700 of income, each bottle of hair dye costs $25, and each pair of Chacos sandals costs $100. The table below provides the utilities associated with bottles of hair dye and pairs of Chacos sandals. Use this information to answer the following 4 questions.

Q hair dye	Utility from hair dye	Q sandals	Utility from sandals
1	30	1	200
2	50	2	375
3	65	3	525
4	75	4	640
5	80	5	740
6	83	6	800
7	85	7	830
8	86	8	850

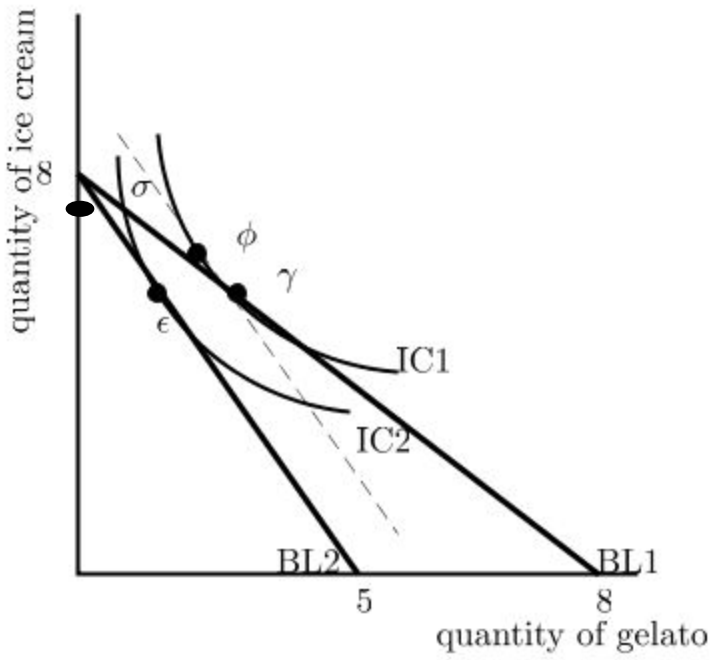
3. What is the equation of Brennen's budget line? (D=quantity of hair dye, and C=quantity of Chacos sandals)
    a. $700 = 100C+25D$
    b. $700 = C+D$
    c. $700=4C+100D$
    d. $100=(1/4)C+25D$

4. What is the relative price of a pair of a bottle of hair dye?
    a. 4 pairs of sandals
    b. 0.25 pairs of sandals
    c. 0.15 pairs of sandals
    d. 6.67 pairs of sandals

5. What is Brennen's marginal utility per dollar spent on the 5^{th} pair of sandals?
    a. 5
    b. 1
    c. 0.33
    d. 0.2

6. What combination of sandals and hair dye maximizes Brennen's utility given his limited budget?
    a. 7 pairs of sandals and 0 bottles of hair dye
    b. 6 pairs of sandals and 4 bottles of hair dye
    c. 5 pairs of sandals and 8 bottles of hair dye
    d. 2 pairs of sandals and 6 bottles of hair dye

7. Andrew spent all of his income this week purchasing 7 pumpkin spice lattes and 7 burritos. The marginal utility of the 7^{th} latte he purchased was 40, and the marginal utility of the 7^{th} burrito he purchased was 20. If this combination of lattes and burritos maximizes his utility, which of the following must be true?
    a. Lattes are twice as expensive as burritos
    b. Burritos are twice as expensive as lattes
    c. The price of burritos and the price of lattes are the same
    d. The marginal utility per dollar spent on the 7^{th} latte is twice as big as the marginal utility per dollar spent on the 7^{th} burrito.



Maddie, whose preferences and budget for ice cream and gelato are presented above, has an income of $80. The change in the price of gelato is represented by the shift of the budget line from BL1 to BL2. IC1 is tangent to BL1 at point γ, and IC2 is tangent to BL2 at point ε. The dashed line is parallel to BL2 and is tangent to IC1 at point ϕ. Answer the next 5 questions based on this information.

8. The price of gelato _____ from ____ to ____.
    a. Decreased; $16; $10
    b. Increased; $10; $16
    c. Decreased; $8; $5
    d. Increased; $5; $8

9. At the original price of gelato, Maddie maximizes her utility at what point?
    a. σ
    b. γ
    c. ε
    d. ϕ

10. The substitution effect of the change in the price of gelato resulted in a(n) _____ in the quantity of gelato purchased and a(n) ____ in the quantity of ice cream purchased.
    a. Increase; increase
    b. Increase; decrease
    c. Decrease; increase
    d. Decrease; decrease

11. Based on the income effect of the change in the price of gelato, gelato is
    a. A normal good
    b. An inferior good
    c. A Giffen good
    d. A complement in consumption of ice cream

12. What is the marginal rate of substitution at point ε on BL2?
    a. 0.625
    b. 1.6
    c. 1
    d. 0.5

13. When the indifference curve and the budget line are tangent, which of the following is also true?
    a. The marginal rate of substitution is maximized
    b. The marginal utility per dollar spent is equal across the two goods
    c. The relative price is equal to the marginal utility of the good measured on the X axis.
    d. The consumer will maximize utility by purchasing more of the good measured on the X axis and less of the good measured on the Y axis.

14. When a firm hires 0 workers, output is equal to 0. When the same firm 5 workers, output is equal to 500. When the firm hires 10 workers, total output is 800. Based on this information, which of the following is true?
    a. The marginal product of workers is rising
    b. The firm is experiencing diminishing marginal returns
    c. The marginal cost of production is falling as the firm hires more workers to expand production
    d. It is not profitable for the firm to hire more than 5 workers

The table below provides partial information regarding costs for a small company that produces mechanical pencils. Use this information to answer the following 3 questions.

Quantity	AFC	AVC	ATC	MC
20			60	10
40				15
60		15		
80				25
100	10		35	

15. What is the total cost of producing 20 units of output?
    a. $200
    b. $400
    c. $600
    d. $1,200

16. What is the marginal cost of producing output between 80 and 100?
    a. $25
    b. $30
    c. $35
    d. $55

17. Because fixed costs are equal to _____, this firm is operating in the _____.
    a. $10; short run
    b. $100; long run
    c. $1000; short run
    d. $200; long run

18. What is the relationship between marginal cost, average variable cost, and average total cost?
    a. When marginal cost is rising, average variable cost and average total cost are also rising
    b. When marginal cost reaches its minimum, average variable cost and average total cost also reach their minimum points.
    c. Marginal cost is equal to average variable cost at the minimum of average variable cost, and marginal cost is equal to average total cost at the minimum of average total cost.
    d. When marginal cost is greater than average variable cost, both average variable cost and average total cost are rising.

19. At the local farmer's market, there are 5 firms who supply vegetables. The market share obtained by these 5 firms is given below. Based on this information, what is the Herfindahl-Hirschman index in this market?

Firms	Market Share
Barney's Veggies	28%
Fresh Greens	22%
Roots	15%
Greens	5%
Smart Choice	30%

a. 2418
b. 2393
c. 1518
d. 900

Use the following table for the following 4 questions. It provides the costs and revenues for a perfectly competitive firm that produces and sells scarves.

Output	Total Revenue (in $)	Total Cost ($)
0	0	25
1	30	49
2	60	69
3	90	91
4	120	117
5	150	147
6	180	180

20. What is the price of the product?
a. $30
b. $150
c. $60
d. $180

21. What is the profit-maximizing number of scarves produced by the firm?
a. 6
b. 1
c. 5
d. 2

22. Which of the following expressions best expresses the level of profit this firm earns when it is maximizing profit?
    a. $147-$150
    b. 5x($30-$29.4)
    c. $30x($30-$5)
    d. $150-(6x$24.4)

23. A perfectly competitive firm is currently producing 100 units of output where price is $25, average total cost is $20, and marginal cost is $25. What should this firm do to maximize profit, if anything?
    a. Reduce output
    b. Increase output
    c. Decrease price
    d. None of the above

24. A monopolistically competitive firm is currently producing 100 units of output where price is $25, average total cost is $20, and marginal cost is $25. What should this firm do to maximize profit, if anything?
    a. Reduce output
    b. Increase output
    c. Decrease price
    d. None of the above

25. A monopoly is currently producing 100 units of output where price is $25, average total cost is $20, and marginal cost is $25. What should this firm do to maximize profit, if anything?
    a. Reduce output
    b. Increase output
    c. Decrease price
    d. None of the above

26. In general, a firm will expand the amount of output it produces as long as its
    a. Price exceeds its average variable cost
    b. Marginal revenue exceeds it marginal cost
    c. Marginal cost exceeds its marginal revenue
    d. Average total revenue exceeds its average total cost

27. If the price of its product falls below the minimum point of the AVC curve, the best a perfectly competitive firm can do to maximize profit is to
    a. Shut down and incur a loss equal to its total variable cost
    b. Shut down and incur a loss equal to its total fixed cost
    c. Keep producing and incur a loss equal to its variable cost
    d. Keep producing and incur a loss equal to its total fixed cost

28. Which of the following best describes economies of scale?
    a. The long run average cost curve has a positive slope.
    b. When a firm increases production, its total cost of production falls.
    c. Increases in production can lower the average cost of production in the long run.
    d. A firm can increase its profit by finding ways to differentiate its product from the products of competing firms.

29. In which kind of market do economies of scale enable one firm to supply the entire market at the lowest possible cost?
    a. Monopolistic competition
    b. Oligopoly
    c. Competitive market
    d. Natural Monopoly

Market demand and marginal cost facing a monopolist are given below. Use this information to answer the following 5 questions.

D: Qd=5000-2P

MC: MC=2Q+100

30. At which of the following combinations of output and price is demand elastic?
    a. Q=2500 and P=$1750
    b. Q=3000 and P=$1000
    c. Q=2000 and P=$1500
    d. Q=3500 and P=$750

31. What is the equation that represents the firm's marginal revenue?
    a. MR=-2Q+2500
    b. MR=-2Q+10000
    c. MR=-Q+2500
    d. MR=-4Q+2500

32. What level of output and price maximize profit for this monopoly?
    a. Q*=2500; P*=$1750
    b. Q*=960; P*=$2020
    c. Q*=800; P*=$2100
    d. Q*=800; P*=$1700

33. What level of output satisfies allocative efficiency in this market?
    a. 800
    b. 960
    c. 2500
    d. 5000

34. What deadweight loss arises from this monopoly?
    a. $6,400
    b. $28,000
    c. $32,000
    d. $192,000

35. Which of the following best describes the relationship between marginal revenue for a monopoly and the price elasticity of demand?
    a. When marginal revenue is positive, demand is elastic.
    b. When marginal revenue is negative, demand is elastic.
    c. When marginal revenue is zero, demand is perfectly inelastic.
    d. Marginal revenue and the price elasticity of demand are equal.

36. If a monopolist can practice perfect price discrimination, how is total surplus affected relative to total surplus in a single price monopoly?
    a. Total surplus is higher with perfect price discrimination
    b. Under perfect price discrimination, producer surplus increases, but consumer surplus decreases
    c. Total surplus is maximized under perfect price discrimination
    d. All of the above

37. Which of the following is true about a natural monopoly?
    a. The level of output that maximizes profit satisfies allocative efficiency.
    b. The level of output that maximizes profit satisfies production efficiency.
    c. A natural monopoly regulated with average cost pricing will generate deadweight loss.
    d. A natural monopoly regulated with marginal cost price will earn profit equal to zero.

38. Which of the following results of monopolistic competition comes from the fact that there are no barriers to entry in that industry?
    a. Marginal revenue is below price
    b. Profit will be zero in the long run
    c. Demand facing an individual firm will be perfectly elastic
    d. The firm produces a level of output that satisfies allocative efficiency

39. Firms in monopolistically competitive markets produce goods that
    a. are identical across firms in the industry
    b. have no close substitutes
    c. have close, but not perfect, substitutes
    d. are typically of low quality

40. Firms in perfect competition, monopolistic competition, and monopoly all maximize profit where?
    a. Where MB=MC
    b. Where MR=MC
    c. Where P=ATC
    d. Where ATC is minimized