Chapter Ten

1. Which of the following is not a condition for perfect competition? Firms
   a. take prices as given
   b. sell a standardized product
   c. are protected by barriers to entry
   d. have perfect information
   e. none of the above

2. If FC > 0, at the output where P = MC = AVC, the firm earns
   a. negative economic profit equal to -FC
   b. zero economic profit
   c. positive economic profit equal to FC
   d. cannot tell from the information provided
   e. none of the above

3. At the output where P = MC = ATC, the firm earns
   a. negative economic profit
   b. zero economic profit
   c. positive economic profit
   d. cannot tell from the information provided
   e. none of the above

4. At the output where P = MC = ATC, the firm should
   a. shut down immediately and permanently
   b. produce in the short run but not in the long run
   c. keep producing
   d. shut down for now but enter again once can adjust fixed costs
   e. none of the above

5. Which is the largest?
   a. AFC
   b. ATC
   c. AVC
   d. cannot tell from the information provided
   e. none of the above
6. A firm in a competitive industry has a total cost function of \( TC = 0.2Q^2 + 5Q + 50 \), whose corresponding marginal cost curve is \( MC = 0.4Q + 5 \). If the firm faces a price of 7, what quantity should it sell?
   a. 5
   b. 10
   c. 20
   d. 25
   e. none of the above

7. And what profit does the firm make at this price?
   a. 75
   b. -10
   c. -25
   d. -45
   e. none of the above

8. And should the firm shut down?
   a. yes, shut down right away
   b. not in the short run but yes shut down in the long run
   c. yes shut down in the short run but not in the long run
   d. no, should never shut down
   e. none of the above

9. And if the firm instead faces a price of 15, what quantity should it sell?
   a. 5
   b. 10
   c. 20
   d. 25
   e. none of the above

10. And what profit does the firm make at the new higher price?
    a. 75
    b. -10
    c. -25
    d. -45
    e. none of the above
Chapter Eleven

11. The marginal revenue curve of a single-price monopolist
   a. lies above the demand curve
   b. lies below the demand curve
   c. lies along the demand curve
   d. is a horizontal line
   e. none of the above

12. Which statement is true for a profit-maximizing monopolist? It
   a. faces a downward sloping demand curve
   b. can avoid diminishing returns to production
   c. will not produce where marginal cost equals marginal revenue
   d. can charge whatever price it wants
   e. none of the above

13. Which of the following would erode the monopoly pricing power of a firm that was controlling a market?
   a. new technology developed by the firm that lowered its long-run average costs
   b. substitutes for its product that are developed by other firms
   c. a tax on corporate profits
   d. all of these would reduce the monopoly power of the firm
   e. none of the above

14. If a profit-maximizing monopolist faces a linear demand curve and has zero marginal cost, it will produce at the quantity where
   a. marginal revenue equals zero
   b. price equals marginal cost
   c. price equals marginal revenue
   d. price equals average variable cost
   e. none of the above

15. A natural monopoly always has
   a. a downward sloping long run average cost curve
   b. an upward sloping marginal cost curve
   c. its profit maximization point where price = marginal cost
   d. extensive patent rights
   e. none the above
16. A monopolist has a demand curve given by \( P = 90 - Q \) and a total cost curve given by \( TC = 30Q \). The associated marginal cost curve is \( MC = 30 \). What is the monopolist's marginal revenue curve?
   a. \( MR = 90 - Q \)
   b. \( MR = 90 - 2Q \)
   c. \( MR = 90 - 3Q \)
   d. \( MR = 90 - 4Q \)
   e. none of the above

17. And what is the monopolist's profit maximizing quantity?
   a. \( Q = 10 \)
   b. \( Q = 20 \)
   c. \( Q = 30 \)
   d. \( Q = 40 \)
   e. none of the above

18. And what price will the monopolist charge?
   a. \( P = 80 \)
   b. \( P = 70 \)
   c. \( P = 60 \)
   d. \( P = 50 \)
   e. none of the above

19. And how much economic profit will the monopolist earn?
   a. 500
   b. 800
   c. 900
   d. 1,200
   e. none of the above

20. And what quantity would the monopolist pick if instead of charging a single price, it could perfectly discriminate?
   a. \( Q = 10 \)
   b. \( Q = 20 \)
   c. \( Q = 30 \)
   d. \( Q = 40 \)
   e. none of the above
21. Which assumption in the model of perfect competition differs for monopolistic competition?
   a. free entry and exit
   b. product homogeneity
   c. large number of firms
   d. perfect information
   e. none of the above

22. In the Bertrand model of oligopoly,
   a. each firm takes the quantities produced by its rivals as given
   b. each firm takes the prices charged by its rivals as given
   c. one firm plays a leadership role and its rivals follow
   d. prices are higher and quantities lower than if the firms colluded to achieve the monopoly outcome
   e. none of the above

23. The interdependence between Cournot duopolists causes
   a. higher price and lower total quantity than for a monopoly
   b. lower price and higher total quantity than for a monopoly
   c. same price and total quantity as for a monopoly
   d. same price and total quantity as for perfect competition
   e. none of the above

24. Which duopoly model has the highest overall combined profit level?
   a. Cournot model
   b. Bertrand model
   c. Stackelberg Leader-Follower model
   d. shared monopoly model
   e. none of the above

25. Which duopoly model has the lowest overall combined profit level?
   a. Cournot model
   b. Bertrand model
   c. Stackelberg Leader-Follower model
   d. shared monopoly model
   e. none of the above
26. The market demand curve for a pair of Cournot duopolists is given as \( P = 90 - Q \), where \( Q = Q_1 + Q_2 \). The constant per unit marginal cost is 30 for each duopolists (there are no fixed costs). What is the marginal revenue function for the first firm?
   a. \( MR = 90 - 2Q \)
   b. \( MR = 90 - Q_2 - 2Q_1 \)
   c. \( MR = 90 - 2Q_2 - Q_1 \)
   d. \( MR = 90 - Q \)
   e. none of the above

27. And what is the reaction function for the first firm?
   a. \( Q_1 = 45 - Q_2/2 \)
   b. \( Q_1 = 45 - Q_2 \)
   c. \( Q_1 = 30 - Q_2/2 \)
   d. \( Q_1 = 30 - Q_2 \)
   e. none of the above

28. And what total quantity would the firms produce?
   a. \( Q = 10 \)
   b. \( Q = 20 \)
   c. \( Q = 30 \)
   d. \( Q = 40 \)
   e. none of the above

29. And what price would they charge?
   a. \( P = 80 \)
   b. \( P = 70 \)
   c. \( P = 60 \)
   d. \( P = 50 \)
   e. none of the above

30. And how much economic profit will each firm earn?
   a. 500
   b. 800
   c. 900
   d. 1,200
   e. none of the above
Chapter Fourteen

31. The value of the marginal product of labor, VMPL, for the perfectly competitive firm equals the
   a. total revenue from selling the equilibrium output
   b. added revenue from selling output of one more hour of labor
   c. added revenue from selling one more unit of output
   d. price of the product being produced by labor
   e. none of the above

32. Economic theory suggests that increasing the minimum wage will
   a. increase the employment of teenagers
   b. decrease the employment of teenagers
   c. Increase the employment of unionized labor
   d. increase the number of monopsony firms
   e. none of the above

33. The backward-bending portion of the labor supply curve implies that
   a. higher wages lead to an increase in hours of work supplied
   b. the law of diminishing returns has settled in
   c. higher wages lead to fewer hours of work supplied
   d. a minimum wage law is in effect
   e. none of the above

34. The substitution effect of a higher wage on the amount of leisure demanded
   a. makes leisure more expensive so people work more
   b. makes leisure less expensive so people work less
   c. gives people more buying power so they demand more leisure
   d. gives people less buying power so they demand less leisure
   e. none of the above

35. The income effect of a higher wage on the amount of leisure demanded
   a. makes leisure more expensive so people work more
   b. makes leisure less expensive so people work less
   c. gives people more buying power so they demand more leisure
   d. gives people less buying power so they demand less leisure
   e. none of the above
36. If a poor person has perfect complement preferences requiring 1 hour of leisure for every $5 of income and can work for $10/hour, how many hours of leisure will be consumed and how much income earned?
   a. M = 60, h = 18
   b. M = 70, h = 17
   c. M = 80, h = 16
   d. M = 90, h = 15
   e. none of the above

37. If given $30/day, this person’s new daily budget constraint would be
   a. M = 10 (24 - h)
   b. M = 10 (24 - h) + 30
   c. M = 15 (24 - h)
   d. M = 15 (24 - h) + 30
   e. none of the above

38. And how many hours of leisure will be consumed and income earned (if have the same perfect complement preferences as above)?
   a. M = 90, h = 18
   b. M = 100, h = 17
   c. M = 110, h = 16
   d. M = 120, h = 15
   e. none of the above

39. If instead the poor person receives a subsidy equal to 50 percent of any wage income earned, what would be the new daily budget constraint?
   a. M = 10 (24 - h)
   b. M = 10 (24 - h) + 30
   c. M = 15 (24 - h)
   d. M = 15 (24 - h) + 30
   e. none of the above

40. And how many hours of leisure will be consumed and income earned (if have the same perfect complement preferences as above)?
   a. M = 90, h = 18
   b. M = 105, h = 17
   c. M = 120, h = 16
   d. M = 135, h = 15
   e. none of the above
Chapter Ten

1c Which of the following is not a condition for perfect competition? Firms are protected by barriers to entry.
2a If FC > 0, at the output where P = MC = AVC, the firm earns negative economic profit equal to -FC.
3b At the output where P = MC = ATC, the firm earns zero economic profit.
4c At the output where P = MC = ATC, the firm should keep producing.
5b Which is the largest? ATC (= AVC + AFC)

6a A firm in a competitive industry has a total cost function of TC = 0.2Q² + 5Q + 50, whose corresponding marginal cost curve is MC = 0.4Q + 5. If the firm faces a price of 7, what quantity should it sell? Q = 5
7d And what profit does the firm make at this price? -45
8b And should the firm shut down? Not in the short run but yes shut down in the long run.
9d And if the firm instead faces a price of 15, what quantity should it sell? Q = 25
10a And what profit does the firm make at the new higher price? 75

Chapter Eleven

11b The marginal revenue curve of a single-price monopolist lies below the demand curve.
12a Which statement is true for a profit-maximizing monopolist? It faces a downward sloping demand curve.
13b Which of the following would erode the monopoly pricing power of a firm that was controlling a market? substitutes for its product that are developed by other firms
14a If a profit-maximizing monopolist faces a linear demand curve and has zero marginal cost, it will produce at the quantity where marginal revenue equals zero.
15a A natural monopoly always has a downward sloping long-run average cost curve.
16b A monopolist has a demand curve given by \( P = 90 - Q \) and a total cost curve given by \( TC = 30Q \). The associated marginal cost curve is \( MC = 30 \). What is the monopolist's marginal revenue curve? \( MR = 90 - 2Q \)

17c And what is the monopolist's profit maximizing quantity? \( Q = 30 \)

18c And what price will the monopolist charge? \( P = 60 \)

19c And how much economic profit will the monopolist earn? 900

20e And what quantity would the monopolist pick if instead of charging a single price, it could perfectly discriminate? \( Q = 60 \) (none of the above)

Chapter Thirteen

21b Which assumption in the model of perfect competition differs for monopolistic competition? Product homogeneity

22b In the Bertrand model of oligopoly, each firm takes the prices charged by its rivals as given.

23b The interdependence between Cournot duopolists causes lower price and higher total quantity than for a monopoly.

24d Which duopoly model has the highest overall combined profit level? Shared monopoly model

25b Which duopoly model has the lowest overall combined profit level? Bertrand model

26b The market demand curve for a pair of Cournot duopolists is given as \( P = 90 - Q \), where \( Q = Q_1 + Q_2 \). The constant per unit marginal cost is 30 for each duopolists (there are no fixed costs). What is the marginal revenue function for the first firm? \( MR = 90 - Q_2 - 2Q_1 \)

27c And what is the reaction function for the first firm? \( Q_1 = 30 - Q_2/2 \)

28d And what total quantity would the firms produce? \( Q = 40 \)

29d And what price would they charge? \( P = 50 \)

30e And how much economic profit will each firm earn? 400 (none of the above)

Chapter Fourteen

31b The value of the marginal product of labor, \( VMPL \), for the perfectly competitive firm equals the added revenue from selling output of one more hour of labor.
32b Economic theory suggests that increasing the minimum wage will decrease the employment of teenagers.

33c The backward-bending portion of the labor supply curve implies that higher wages lead to fewer hours of work supplied.

34a The substitution effect of a higher wage on the amount of leisure demanded makes leisure more expensive so people work more.

35c The income effect of a higher wage on the amount of leisure demanded gives people more buying power so they demand more leisure.

36c If a poor person has perfect complement preferences requiring 1 hour of leisure for every $5 of income and can work for $10/hour, how many hours of leisure will be consumed and how much income earned? M = 80, h = 16

37b If a payment of $30/day is to be given to this poor person, what would be the new daily budget constraint? M = 10 (24 - h) + 30

38a And how many hours of leisure will be consumed and income earned (if have the same perfect complement preferences as above)? M = 90, h = 18

39c If instead the poor person receives a subsidy equal to 50 percent of any wage income earned, what would be the new daily budget constraint? M = 15 (24 - h)

40a And how many hours of leisure will be consumed and income earned (if have the same perfect complement preferences as above)? M = 90, h = 18