Test 3 – Econ 3144 Name________________________

Spring 2010 – Dr. Rupp

40 Multiple Choice Questions Signature_____________________

"I have neither given nor received aid on this exam"

Use the following information to answer questions 1-9: Sally's Snow Cone Co. is a small business that acts like a price taker. The prevailing market price for a snow cone is $1 each. Here are all of Sally's costs:

(a) Each year she has to buy a new snow cone cart, which costs $50.
(b) Each year she must buy a solicitation permit from Greenville, which costs $60.
(c) Every time she sells a snow cone she has to pay for the shaved ice, which costs $0.05 per cone.
(d) Every time she sells a snow cone she must pay for syrup which costs $0.05 per cone.

1. What is the total cost equation for Sally? (where q = number of snow cones)
   a. TC = 50 + 0.05q
   b. TC = 110 + 0.1q
   c. TC = 110 + 0.05q
   d. TC = 0.1q
   e. TC = 60 + 0.1q

2. How much are fixed costs for Sally?
   a. $50
   b. $60
   c. $110
   d. $0.05
   e. $0.10

3. How much are variable costs for Sally?
   a. 0.05q
   b. 0.10q
   c. q
   d. 0.10
   e. 0.05

4. Calculate, how much are the total cost to Sally of producing 20 snow cones?
   a. $112
   b. $2
   c. $52
   d. $62
   e. $111

5. Calculate, how much are the total cost to Sally of producing 21 snow cones?
   a. $111.05
   b. $52.10
   c. $2.05
   d. $112.10
   e. $2.10

6. Calculate the marginal cost of producing the 21st snow cone.
   a. $110
   b. $2.10
   c. $112.10
   d. $0.05
   e. $0.10

7. What is the marginal cost equation for snow cones?
   a. MC = 110 + 0.1q
   b. MC = 0.05q
   c. MC = 0.1q
   d. MC = 0.05
   e. MC = 0.10

8. How many snow cones must Sally sell to break-even? (rounded to the nearest cone)
   a. 110
   b. 1100
   c. 122
   d. 1158
   e. 116

9. Finally, assume that the syrup costs have doubled to 0.10 per cone. All other costs are unchanged, what is the new marginal cost equation for snow cones?
   a. MC = 0.15q
   b. MC = 0.1q
   c. MC = 0.15
   d. MC = 0.10
   e. MC = 110 + 0.15q

10. There are 20 identical firms in the competitive t-shirt industry which have the same short-run marginal cost curve of the i^{th} firm is given by: SMC = 2 + $2Q_i$. Find the market supply curve.
   a. Market Supply = 2 + $40Q_{mkt}$
   b. Market Supply = 40 + $40Q_{mkt}$
   c. Market Supply = 2 + $Q_{mkt}/10$
   d. Market Supply = 2 + $Q_{mkt}/20$
   e. Market Supply = 40 + $Q_{mkt}/10$

11. Given the market supply curve that you just found in question #10, use the following demand curve in this industry is: P = 10 – 3Q/10 to find the equilibrium quantity.
   a. Q = 10
   b. Q = 6
   c. Q = 4
   d. Q = 20
   e. Q = 30

12. Given the market supply equation from question #10 and the market demand equation from question #11, find the equilibrium price
   a. P = $7
   b. P = $1
   c. P = $8.80
   d. P = $4
   e. P = $8.20

13. A perfectly competitive firm has the cost curves: MC = 2 + 2Q and AVC = 2 + Q. In the short run, how many units of output (if any) will it produce at a market price of $12?
   a. Q = 10
   b. Q = 7
   c. Q = 4
   d. Q = 5
   e. Q = 0 (firm will close)

14. A perfectly competitive firm has the cost curves: $MC = 2 + 2Q$, $AVC = 2 + Q$, $TC = Q^2 + 2Q + 30$
In the long run, how many units of output (if any) will it produce at a market price of $12?
    a. Q = 10
    b. Q = 7
    c. Q = 4
    d. Q = 5
    e. Q = 0 (firm will close)

15. A perfectly competitive firm has the cost curves: $MC = 2 + 2Q$, $AVC = 2 + Q$, $TC = Q^2 + 2Q + 30$
In the short-run, what is the profit (or loss) at a market price of $12?
    a. $5
    b. -$30
    c. -$5
    d. $0
    e. -$6

16. A perfectly competitive firm has the cost curves: $MC = 2 + 2Q$, $AVC = 2 + Q$, $TC = Q^2 + 2Q + 30$
In the short run, how much is the producer surplus at a market price of $12?
    a. $0
    b. $25
    c. $24
    d. $21
    e. -$30

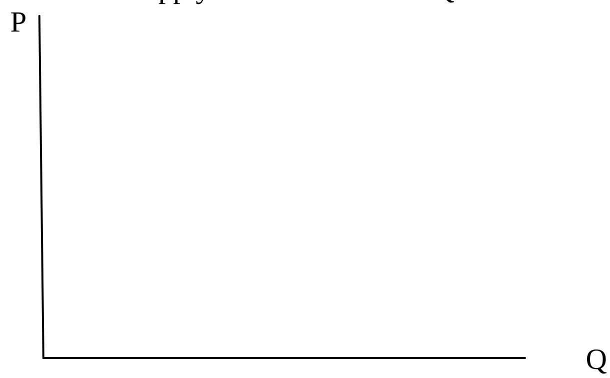
17. What is the economic term for the difference between willingness to pay and price paid?
    a. Consumer surplus
    b. Producer surplus
    c. Total surplus
    d. Deadweight loss
    e. Economic welfare

18. Which curve is the supply curve of a firm?
    a. Average fixed cost
    b. Average total cost
    c. Average variable cost
    d. Economies of scope
    e. Marginal cost

19. What is the allocative efficiency rule?
    a. Add workers until the MP begins to diminish
    b. Add workers until the MP becomes negative
    c. Always produce at the minimum of AVC
    d. Produce the quantity where marginal benefit = marginal cost
    e. Always produce at the minimum of ATC

20. A company that charges every consumer exactly their willingness to pay is said to be:
    a. Acting rationally
    b. Following the allocative efficiency rule
    c. Perfectly price discriminating
    d. Practicing price differentiation
    e. Achieving the minimum efficient scale

21. Given the supply curve is: $P = 4 + 2Q^s$ and demand curve is: $P = 13 – Q$. Find the consumer surplus.



a. $9
b. $4.50
c. $7.50
d. $30
e. $6

22. Given the supply curve is: $P = 4 + 2Q^s$ and demand curve is: $P = 13 – Q$. Find the producer surplus.

a. $9
b. $4.50
c. $7.50
d. $30
e. $6

Use the following information to answer **questions 23-28**. A monopolist incurs $6 in fixed costs. The marginal cost is $4 per unit produced.

P	Q	TR	MR	TC	Profit
$8	0				
7	1				
6	2				
5	3				
4	4				

23. Will this monopolist produce in the short run? If yes, how much does it produce?

A) No. Q = 0
B) 1
C) 2
D) 3
E) 4

24. What is the profit maximizing quantity for this DVD monopolist in the **long run**?

A) 0 (since closed in long run)
B) 1
C) 2
D) 3
E) 4

25. How much profit (or loss) does this monopolist incur in the **short run**?

A) $3
B) -$2
C) -$3
D) $2
E) -$6

26. How much profit (or loss) does this monopolist incur in the **long run**?

A) $0 B) -$3 C) -$2 D) $2 E) $3

Use the following to answer questions: 27 – 37:
A monopoly has a demand curve: $P = 100 – 4Q$, total cost: $TC = Q^2$, and $MC = 2Q$.

27. Find the profit maximizing quantity in the long-run:
   A. 24.5
   B. 10
   C. 16.67
   D. 20
   E. 0 (shut down in long-run)

28. Find the profit maximizing price in the long-run:
   A. $20
   B. $33.33
   C. $60
   D. $2
   E. $0 (since closed in long-run)

29. Find the profit
   A. $0
   B. $277.72
   C. $580
   D. $340
   E. $500

Graph the monopolist's producer surplus, consumer surplus, and deadweight loss below:

30. What is the area of consumer surplus?
   A. 400
   B. 300
   C. 200
   D. 555.69
   E. 0 (since closed)

31. How much is the area of producer surplus?
   A. 400
   B. 500
   C. 200
   D. 277.81
   E. 0 (since closed)

32. How much is the area of deadweight loss?
   A. 133.40
   B. 200
   C. 400
   D. 277.81
   E. 0 (or no deadweight loss)

33. Previously, the monopolist charged a single price. Now, suppose the monopolist can perfectly price discriminate. What is the profit maximizing quantity for a perfectly price discriminating monopolist?
   A. 10
   B. 16.67
   C. 20
   D. 24.5
   E. 0 (since closed)

34. What would happen to the area of consumer surplus under perfect price discrimination?
   A. no change in consumer surplus
   B. consumer surplus would expand or increase
   C. consumer surplus would shrink or decrease
   D. monopolist would close under perfect price discrimination

35. What would happen to the area of producer surplus under perfect price discrimination?
   A. no change in producer surplus
   B. producer surplus would expand or increase
   C. producer surplus would shrink or decrease
   D. monopolist would close under perfect price discrimination

36. What would happen to the area of deadweight loss under perfect price discrimination?
   A. no change in deadweight loss
   B. deadweight loss would expand or increase
   C. deadweight loss would shrink or decrease
   D. monopolist would close under perfect price discrimination

37. What would happen to the total surplus under perfect price discrimination?
   A. no change in total surplus
   B. total surplus would expand or increase
   C. total surplus would shrink or decrease
   D. monopolist would close under perfect price discrimination

38. Under perfect competition, if an industry is characterized by positive economic profits in the short run:
   A. firms will leave the market in the long-run and the short-run supply curve will shift outward.
   B. firms will enter the market in the long-run and the short-run supply curve will shift outward.
   C. firms will enter the market in the long-run and the short-run supply curve will shift inward.
   D. firms will leave the market in the long-run and the short-run supply curve will shift inward.

39. Positive economic profits exist for a firm in the long-run if the price is above:
   A. long-run average cost
   B. long-run marginal cost
   C. long-run total cost
   D. long-run variable cost

40. A natural monopoly
   A. is a monopoly in the production of raw materials
   B. occurs when one firm can supply the entire market more cheaply than can a number of firms.
   C. is one result of a patent.
   D. necessarily involves inefficient pricing.

Extra Credit

41. For the practice of price discrimination to be successful, the monopoly must
    - A. be able to prevent resale of its product
    - B. face similar demand curves for various markets
    - C. have similar costs among markets
    - D. have a downward sloping marginal cost curve

Test 3 – Key
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1. B
2. C
3. B
4. A
5. D
6. E
7. E
8. C
9. C
10. C
11. D
12. D
13. D
14. E
15. C
16. B
17. A
18. E
19. D
20. C
21. B
22. A
23. C
24. A
25. B
26. A
27. B
28. C
29. E
30. C
31. B
32. A
33. B
34. C
35. B
36. C
37. B
38. B
39. A
40. B
41. A