Econ 3144 – Spring 2010 Name_____
Test 2 – Dr. Rupp

"I have neither given nor received aid on this exam"_____
(signature)

The following formula might be useful: $E_p = (P/Q)*(1/slope)$
40 Multiple Choice Questions

Use the following information to answer questions 1-4: The demand for calculators is $Q^d = 120 - 20P$, where P is the price of calculators. Graph the demand curve for calculators below.

1. What is the vertical intercept of the demand curve above?
   a. 20
   b. 6
   c. 120
   d. 60
   e. 1/6

2. What is the slope of the demand curve above?
   a. -1/6
   b. -6
   c. -1/20
   d. -20
   e. -6/20

3. What is the price elasticity of demand for calculators if P = 2?
   a. -1/2
   b. -1/3
   c. -2
   d. -1/20
   e. -20

4. If the calculator seller wants to increase revenue, what should they do?
   a. Increase price
   b. Decrease price
   c. Leave price unchanged (since already maximizing revenue)

Use the following table to answer questions 5 – 7:

East Lake		West Lake	
# of Boats	Average # Fish	# of Boats	Average # of Fish
1	15	1	20
2	14	2	18
3	13	3	16
4	12	4	14
5	11	5	12

5. What is the optimal method of allocate 4 fishing boats between these two lakes?
   a. 0 East, 4 West
   b. 1 East, 3 West
   c. 2 East, 2 West
   d. 3 East, 1 West
   e. 4 East, 0 West

6. How many fish are caught from the East Lake?
   a. 0
   b. 15
   c. 28
   d. 29
   e. 39
7. How many total fish are caught from both lakes?
   a. 64
   b. 67
   c. 69
   d. 63
   e. 56

Use the following information to answer questions #8-10: Your company owns two t-shirt making plants: one plant in Ayden and the other in Grimesland with the following marginal cost and average total cost curves (subscripts A & G denote Ayden and Grimesland, respectively):

$MC_A = 6Q_A$ $\qquad ATC_A = 3Q_A + \frac{6}{Q_A}$

$MC_G = 4Q_G$ $\qquad ATC_G = 2Q_G + \frac{2}{Q_G}$

8. What is the least costly way of producing 10 t-shirts?
   a. $Q_G = 10$, $Q_A = 0$
   b. $Q_G = 8$, $Q_A = 2$
   c. $Q_G = 6$, $Q_A = 4$
   d. $Q_G = 4$, $Q_A = 6$
   e. $Q_G = 2$, $Q_A = 8$

9. How much did it cost to produce the output selected in question #8 from the Grimesland plant?
    a. $74
    b. $306
    c. $34
    d. $10
    e. $24

10. What is the total cost of producing 10 units of output?
    a. $202
    b. $48
    c. $216
    d. $128
    e. $148

Complete the following table for the short-run cost curves for the production function: Q = 4KL where in the short-run K is fixed at 2 units, with the rental price of capital = $12 and the wage rate = $10. Use this table to answer questions 11–15 (you can leave your answer in fractions or carry out to two decimal places: i.e., $14.12):

Workers	Output	TC	VC	FC	ATC	AVC	AFC	MC
0					--	--	--	--
1								
2								

11. How much is the output when there are two workers?
    a. 8
    b. 16
    c. 4
    d. 12
    e. 6

12. How much is variable cost when there are no workers?
    a. $0
    b. $20
    c. $10
    d. $12
    e. $24

13. How much is total cost when there is one worker?
    a. $22
    b. $34
    c. $8
    d. $10
    e. $24

14. How much is average total cost when there are two workers?
    a. $0.36
    b. $2.75
    c. $5.50
    d. $1.25
    e. $1.50

15. What is the marginal cost when there is one worker?
    a. $10
    b. $8
    c. $0.80
    d. $3
    e. $1.25

Use the following chart to answer questions 16-18:

Labor	Output	Marginal Product	Average Product
0	0	--	--
1	25		
2			27.5
3	76		
4		18	
5	108		

16. Based on the chart above, what is the marginal product from the 3rd worker?
    a. 21
    b. 25.33
    c. 25
    d. 22.67
    e. 24

17. Do diminishing returns to labor appear in the above chart? If so, where does this occur?
A) Yes, after the 1st worker is hired
B) Yes, after the 2nd worker is hired
C) Yes, after the 3rd worker is hired
D) Yes, after the 4th worker is hired
E) No (diminishing returns are not exhibited in the above graph).

18. What is the average product of labor when there are 4 workers?
A) 23.5
B) 4.5
C) 21.6
D) 22.5
E) 18.4

19. If Jane and Bob's demand curves are: $P = 8 - Q_J$ and $P = 4 - 2Q_B$, respectively. Find the equation for the market demand curve.

a. $P = \frac{20}{3} - \frac{2}{3}Q$

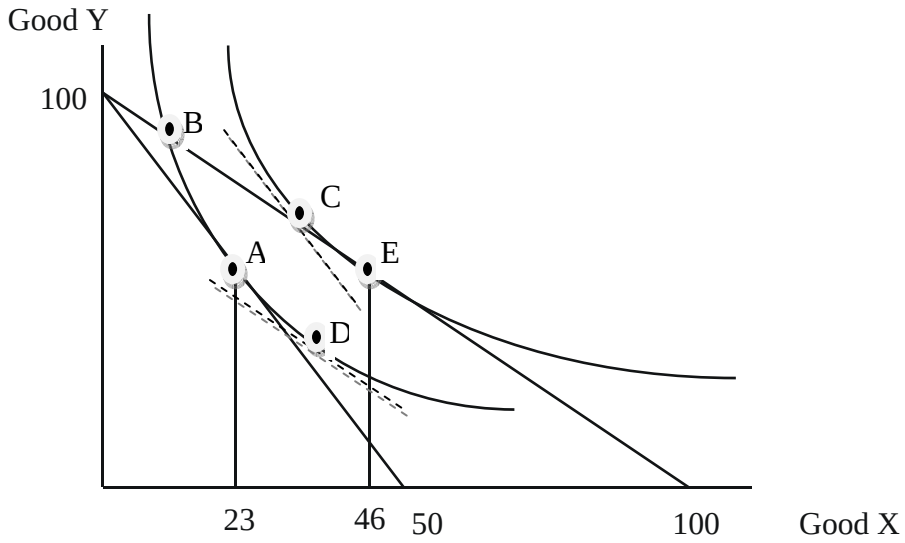
b. $P = 20 - \frac{2}{3}Q$

c. $P = 12 - \frac{3}{2}Q$

d. $P = \frac{20}{3} - \frac{3}{2}Q$

e. $P = 12 - 3Q$

Use the graph below to answer questions 20-23.



20. If M = \$200, P_Y = \$2, and P_X = \$2. Find the best affordable bundle.
    A) A
    B) B
    C) C
    D) D
    E) E

21. Suppose the price of X increases from P_X = \$2 to P_X = \$4. Everything else is unchanged (M = \$200 & P_Y = \$2). The total effect is represented by moving from point____ to point____.
    A) E to A
    B) D to A
    C) E to D
    D) C to E
    E) A to E

22. The substitution effect due to the price of X increasing is represented as moving from point____ to point____.
    A) D to A
    B) A to B
    C) A to D
    D) E to C
    E) C to E

23. The income effect due to the price of X increasing is represented as moving from point_____ to point____.
    A) C to A
    B) E to D
    C) B to C
    D) D to E
    E) A to C

24. An increase in demand is represented by
    a) A shift outward of the entire demand curve.
    b) A shift inward of the entire demand curve.
    c) A movement along the demand curve in a southeasterly direction due to a decline in the good's price.
    d) A movement along the demand curve in a northwesterly direction due to a decline in the good's price.

25.Two goods, X & Y, all called substitutes if
   a) An increase in Px causes more Y to be bought.
   b) An increase in Px causes less Y to be bought.
   c) An increase in Py causes less Y to be bought.
   d) An increase in income causes more of both X & Y to be bought.

26.If a consumer purchases only two goods (X and Y) and the demand for X is elastic, then a rise in the price of X
   a) Will cause total spending on good Y to remain unchanged.
   b) Will cause total spending on good Y to fall.
   c) Will cause total spending on good Y to rise.
   d) Will have an indeterminate effect on total spending on good Y.

27. If a good is normal and its price decreases,
   a) The income effect will be positive and the substitution effect will be positive.
   b) The income effect will be negative and the substitution effect will be negative.
   c) The income effect will be positive and the substitution effect will be negative.
   d) The income effect will be negative and the substitution effect will be positive.

28. Which of the utility functions below, represents a person's utility being only a function of their consumption of diet soda and they do not care which brand, Diet Coke (DC) or Diet Pepsi (DP) they consume:
   a) U=min(DC, DP)
   b) U=DC+DP
   c) $U=DC^{½}DP^{½}$
   d) $U=DC^{¼}DP^{¾}$

29. If you double all prices and income and find that demand doesn't change, then this indicates that demand functions are
   a. said to exhibit constant returns to scale.
   b. illustrations of diminishing marginal product.
   c. homogenous of degree zero.
   d. minimum efficient scale.
   e. Giffen goods.

30. If income doubles and the quantity of demanded of good X more than doubles, then good X can be described as a(n)
   A) substitute good
   B) complement good
   C) necessary good
   D) inferior good
   E) luxury good

31. The price elasticity of demand for beer is -0.9. This means that:
   A) if price increases by 1% then the decrease is quantity demanded will be smaller than 1%
   B) if price increases by 1% then the decrease in quantity demanded will be exactly 1%
   C) if price increases by 1% then the decrease is quantity demanded will exceed 1%

32. The price elasticity of demand for beer is -0.9. If beer manufacturers want to increase revenues, then they should:
   A) increase the price of beer
   B) reduce the price of beer
   C) keep the price of beer unchanged (since already maximizing revenue)

33.Find the returns to scale for the following function: Q = 2KL
   A) increasing returns to scale
   B) decreasing returns to scale
   C) constant returns to scale

34. The curve that shows the various input combinations that cost the same is called a(n):
A) Engel curve
B) isoquant curve
C) minimum efficient scale
D) isocost curve
E) indifference curve

35. What is marginal product?
A) the additional output from one more input.
B) total revenue minus total cost.
C) the increase in total cost from producing one more unit of output.
D) the curve that shows all of the optimal input combinations.
E) costs that vary with the quantity of output produced.

Use the following information to answer the next question. An apple orchard uses both machines and workers to pick apples. The daily rental price of an apple picking machine is $40 while the daily wage rate per apple picker is $60.

36. In the space above, draw an isocost curve for this apple orchard spending $240. What is the isocost curve slope?
A) -2/3
B) -3/2
C) -1/4
D) -4
E) -6

37. Given the marginal product of daily rental price of capital is $40 and the daily wage rate per worker is $60. The marginal product of workers is 40 and the marginal product of capital is 30. What is your recommendation for this company?

A) Rent more capital and fire workers.
B) Rent less capital and hire workers.
C) Don’t change anything, since this company is already optimally using its inputs.

38.The cross-price elasticity of peanut butter and jelly is most likely:
A) positive
B) negative
C) zero

39. Joe earns $12 each week. He buys two goods: coffee ($0.40 per cup) and creamer ($0.10 per oz.). Joe will only drink coffee if it is prepared with two creamers per cup. How much coffee and creamer will Joe buy?

A. 24 coffees and 48 creamers
B. 20 coffees and 40 creamers
C. 24 coffees and 24 creamers
D. 20 coffees and 20 creamers
E. 40 coffees and 20 creamers

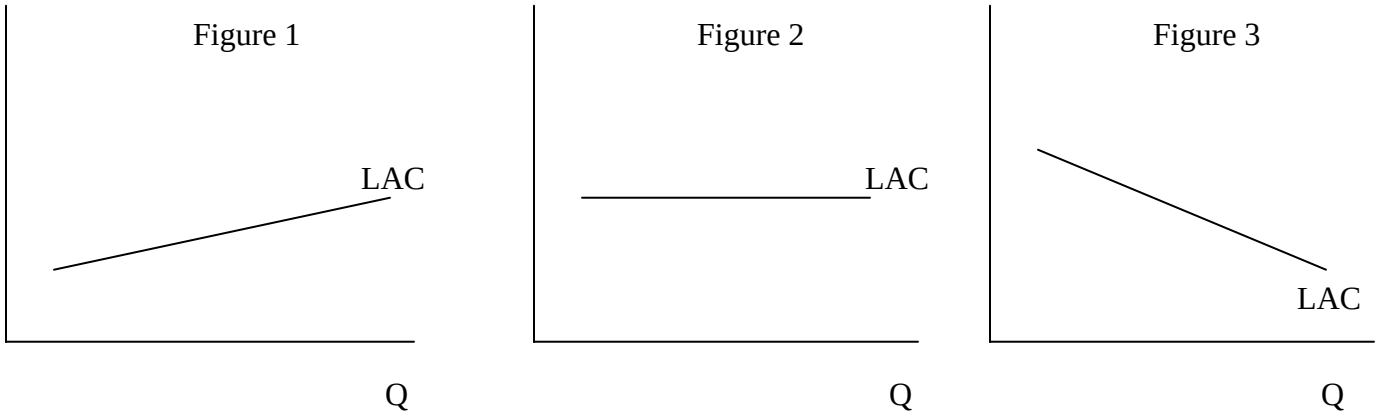
40. True/False: The number of workers where marginal product reaches its maximum, is also the minimum of the marginal cost curve.

A. True
B. False

Extra Credit: You are eligible to answer this extra credit question only if you meet two criteria: (1) your cell phone has not rung in class since the previous test and (2) you are taking this test in class at the regularly scheduled day and time.

41. Which of the figures below represents Long-run average costs curves for an increasing returns production function?

A) Figure 1
B) Figure 2
C) Figure 3



Test 2 Key – 3144
Spring 2010 – Dr Rupp

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