Econ 3144 – Fall 2006 Name_____
Test 2 – Dr. Rupp

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

The following formula might be useful: $E_p = (P/Q)*(1/slope)$
I. Discussion Questions (12.5 points each…50 points total):

1. The demand for ski lift tickets at Sugar Mountain is Q = 1,200 – 20P , where P is the price of lift tickets (in dollars) and Q is the number of tickets sold.

    a. If the price per ticket is $45, how much revenue does Sugar Mountain earn?

    b. What is the price elasticity of demand for ski lift tickets at this price? (hint: calculate a number)

    c. In words, precisely interpret the price elasticity number that you calculated in (b).

    d. Based on the information above, what should Sugar Mountain do to increase their revenue?

2.

East Lake		West Lake	
# of Boats	Average # Fish	# of Boats	Average # of Fish
1	40	1	50
2	40	2	48
3	40	3	46
4	40	4	44
5	40	5	42

a. Using the above chart, suppose Madison has 5 fishing boats. What is the optimal method of allocating 5 fishing boats between these two lakes? [*No credit given if you don't show your work*] (6.5 points)

b. Based on your answer from (a), how many fish will be caught from the East Lake? (2 points)

c. Based on your answer from (a), how many fish will be caught from the West Lake? (2 points)

d. How many total fish are caught? Show your work. (2 point)

3**.** Suppose you own two plants: one plant in Atlanta and the other in Boston with the following marginal cost and average total cost curves (subscripts A & B denote Atlanta and Boston):

$MC_A = 0.4Q_A$, $ATC_A = 0.2Q_A$

$MC_B = 1 + 0.2Q_B$, $ATC_B = 1 + 0.1Q_B$

a. What is the least costly way of producing 40 units of output? (6.5 points)

b. How much did it cost to produce the output selected in (a) from plant A? (2 points)

c. How much did it cost to produce the output selected in (a) from plant B? (2 points)

d. What is the total cost to produce 40 units of output? (2 point)

4. Complete the following table for the short-run cost curves for the production function: Q = 3KL where in the short-run K is fixed at 2 units, with the rental price of capital = $2 and the wage rate = $2.

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

Extra Credit (+2): What is the price consumption curve?

Extra Credit (+2): Use a graph to illustrate a price consumption curve below. ***No credit given if you don't label your axes and curves!***

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II. Multiple Choice: (20 questions, worth 2.5 points each…50 points total)

Use the following table to answer the next two questions:

Labor	Output	Marginal Product	Average Product
0	0	--	--
1	6		
2		8	
3			6
4		2	
5	19		

1. What is the marginal product from the 3rd worker?

A) 1
B) 2
C) 3
D) 4
E) 5

2. 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).

Use the table below to answer the next three questions:

Q	Fixed Cost	Variable Cost	Total Cost	Marginal Cost	Average Fixed Cost	Average Variable Cost	Average Total Cost
0	50			--	--	--	--
1			70				
2		35					
3				10			
4							25

3. What is the marginal cost of producing the fourth quantity?

A) 10
B) 50
C) 15
D) 5
E) 12.5

4. What is the average variable cost of making a quantity of three?

A) 3.33
B) 12.5
C) 15
D) 17.5
E) 12.75

5. What is the variable cost for producing the fourth quantity?

A) 100
B) 45
C) 5
D) 12.5
E) 50

6. The income elasticity of demand for autos is 2.50. This means that if income increases by 10% then a consumer will spend
A) 10% more buying autos.
B) 2.5% more buying autos
C) 0.25% more buying autos
D) 25% more buying autos

7. The cross-price elasticity of demand between hot dogs and mustard is -2.00. If hot dog prices increase by 1 percent, this causes the quantity of mustard purchased to:
A) increase by 2%.
B) decrease by 2%.
C) increase by 20%.
D) decrease by 20%.

8. The defining attribute of a natural monopoly is:
A) a declining fixed cost curve
B) an increasing marginal cost curve
C) a declining marginal revenue curve
D) a declining long-run average cost curve

9. Find the returns to scale for the following function: $Q = 6KL$
A) increasing returns to scale
B) decreasing returns to scale
C) constant returns to scale

10. If a production function exhibits diseconomies of scale than the long-run average cost curve must be:
A) constant as output increases
B) decreasing as output increases
C) increasing as output increases

Use the following information to answer questions 11 & 12: Summit Lawn can hire workers to cut grass at $40 per day and can a unit of capital (lawn mowers, weed eaters, etc.) for $20 per day. Summit Lawn spends $200 per day.

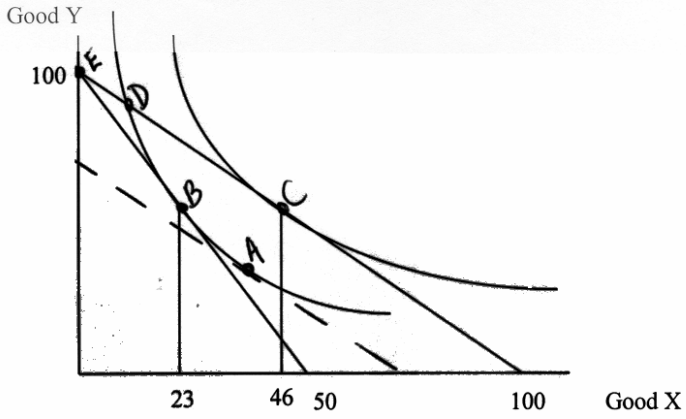
K

_____L

11. In the space above, draw an isocost curve for Summit Lawn spending $200. What is the slope of this isocost curve?
A) -1/2
B) -1/4
C) -1
D) -2
E) -4

12. Summit Lawn currently hires 3 workers and rents 4 units of capital. The marginal product of workers = 40 and the marginal product of capital = 30. Given this information, what recommendation would you give Summit Lawn?
A) Rent more machines and fire workers.
B) Rent fewer machines and hire workers.
C) Don't change anything, since Summit Lawn is already optimally using its inputs.

Use the graph below to answer questions 13-16.



13. If M = \$100, P_Y = \$1, and P_X = \$2. Find the best affordable bundle.
A) A
B) B
C) C
D) D
E) E

14. Suppose the price of X decreases from P_X = \$2 to P_X = \$1. Everything else is unchanged (M = \$100 & P_Y = \$1). The total effect is represented by moving from point____ to point____.
A) A to B
B) B to A
C) C to B
D) C to D
E) B to C

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

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

17. If Jerry and Ben's demand curves are: $P = 8 - Q_J$ and $P = 8 - 2Q_B$, respectively. Find the market demand curve.
A) $P = 8 - 3Q$
B) $P = 8 - (2/3)Q$
C) $P = 8 - (3/2)Q$
D) $P = 4 - (2/3)Q$
E) $P = 4 - (3/2)Q$

18. If demand is $P = 10 - 2Q$, find the price elasticity of demand if $P = 4$.
A) -2
B) -2/3
C) -3/2
D) -3
E) -6

19. What is an Engel Curve?
A. It shows the relationship between price and quantity demanded
B. It shows the relationship between inputs and output
C. It shows the relationship between price and quantity supplied
D. It shows the relationship between taxes and consumption
E. It shows the relationship between income and quantity demanded

20. Milk is classified as a "necessary good", this means that
A) if the price of milk goes up 1%, quantity demanded for milk decreases by more than 1%.
B) if the price of milk goes up 1%, quantity demanded for milk decreases by less than 1%.
C) if the price of milk goes up 1%, quantity demanded for milk increases by less than 1%.
D) if income goes up 1%, quantity demanded for milk increases by less than 1%.
E) if income goes up 1%, quantity demanded for milk increases by more than 1%.