

Do not write your name on the assignment. Write your name only on the back of this sheet of paper and staple your answers on the front of this sheet of paper. Your assignment will be typed, except graphs can be drawn by hand and mathematical equations can be done by hand. Failure to follow these directions will cost you 1 point on the assignment and failure to type it will cost you 10 points.

1) (20 points) Draw the normally shaped MP_L and AP_L diagram. Explain why the curves are shaped as drawn.

2) (15 points) Explain why the MRP_L should equal the MRC_L for profit maximization.

3A) (20 points) Copy this table on your answer sheet and fill it in. Show all calculations.

Labor	Output	MP_L	AP_L	E_L
0				
1	5			
2		7		
3			6	
	20		5	
	18	-1		

3B) (5 points) If the wage rate is \$24/L and the product sells for \$4/unit, then how many units should be produced? Briefly state how you came to your answer.

4) (20 points) Draw an isoquant/isocost diagram with at least three of each line, and determine whether your diagram has increasing, decreasing, or constant returns to scale. Explain your logic.

5) (10 points each) Determine if the following production functions have increasing, constant, or decreasing returns to scale. Briefly explain how you determined it.

A) $Q = 10L^{1/4}K^{3/4}$

B) $Q = 5L^{1/4}K^{1/4}$