ECO 401-001
Fall 2004
Problem Set #5

Due: Friday, November 12

1. On the other side of your professor's family tree, brother-in-law Bubba owns a restaurant/bar in Fort Walton Beach, Florida, which he manages himself. On a recent visit Bubba shared the following information:

Income Statement for Bubba's Bar

Costs		Revenues
Wholesale cost of food and beer	$40,000	Sales of food and drinks $130,000
Wages and salaries	$50,000	
(including $20,000 for himself)		
taxes, utilities, and insurance	$12,000	
interest paid on bank loans		
$100,000 @ 10%	$10,000	

Bubba has $50,000 of his own money invested in the bar. He anticipates that business will continue like this for the foreseeable future. Bubba also has a standing offer of $30,000 to manage another bar in Fort Walton Beach. Suppose a national restaurant/bar chain offers Bubba $150,000 to sell his bar, which would enable him to pay back the $100,000 bank loan and recoup his own $50,000. Should he take the offer? (Hint: what are Bubba's economic profits?)

2. You use fertilizer and pesticide to produce tobacco. At your current rates of usage, another bag of fertilizer per acre would increase output by ten pounds per acre. Another gallon of pesticide would increase tobacco output by 15 pounds. The price of fertilizer is $7.50 per bag, and the price of pesticide is $5 per gallon. Are you using the cost-minimizing combination of fertilizer and pesticide? If not, should you use relatively more fertilizer or relatively more pesticide? Briefly explain why, using a diagram to illustrate.

3. Labor and capital are used to produce widgets according to the production table below:

		Labor Input				
		1	**2**	**3**	**4**	**5**
	1	20	40	55	65	75
Capital	**2**	40	60	75	85	90
Input	**3**	55	75	90	100	105
	4	65	85	100	110	115
	5	75	90	105	115	120

   a) While you do not have enough information to locate more than a couple of points on each isoquant, sketch this firm's isoquant map. Show the isoquants corresponding to outputs of 20, 40, 60, 75, 90, 110, and 120.
   b) Suppose that the firm's expansion path is the 45-degree line when w=$10 and r=$10. In other words, it minimizes cost by using labor and capital in equal proportions when input prices are equal. Draw the firm's LRAC curve.

4. Browning and Zupan, problem 8.12.