Second Exam

Write all answers in your blue book and show all work there. Return your exam and printout(s) in your blue book.

22 pts.
1) Suppose that you have the following print out for a demand function.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.994[a]	.988	.985	20218.87541

a. Predictors: (Constant), OurAdvertising, Comp.Speed, OurSpeed, Price, Population

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.820E11	5	1.164E11	284.750	.000[a]
	Residual	6.950E9	17	4.088E8		
	Total	5.890E11	22			

a. Predictors: (Constant), OurAdvertising, Comp.Speed, OurSpeed, Price, Population

b. Dependent Variable: QuantityDemanded

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-2847399.974	2170594.096		-1.312	.207		
	OurSpeed	11116.108	388.460	1.613	28.616	.000	.219	4.575
	Comp.Speed	-8251.071	567.561	-1.274	-14.538	.000	.090	11.066
	Population	20470.239	8096.636	.247	2.528	.022	.073	13.736
	Price	-333546.162	56062.850	-.450	-5.950	.000	.121	8.238
	OurAdvertising	7.669	.869	.362	8.824	.000	.411	2.430

a) Which do the R^2 and F stat tell you about the quality of the regression? Be specific, nothing vague.
b) What do the t stats tell you about the quality of the regression? Be specific, nothing vague.
c) Do the variables have the expected direction of effect? Explain.
d) Is there any sign of collinearity? Explain.

22 pts.
2) **Computer Problem** Suppose that our production function is $Q = 100L - 2L^2 + 10K - .01 K^2$
a) Set up a spreadsheet to display L = K=10, Q and the marginal products.
b) Now presume that $P_L = 10 = P_K$ and that the product's price (P) = 100. Display the MRP's and the profit. Print the spreadsheet with these values.
c) Now use the solver the find the profit maximizing values.

12 pts.
3) Discuss how historic costs can differ from economic ones and how this can lead to bad decisions.

22pts.
4) Suppose that our TC function is $100 + 10Q - Q^2 + .1Q^3$, quantities have not been low enough to observe the part of this function where MC is falling.
a) Draw a rough sketch of what the scatter diagram of the TC data would look like.
b) Suggest a specification for the TC function that would work best in a regression and generally describe the regression stats that would look good.
c) If you tried the cubic function, what would probably not work very well. Explain.

22 pts.
5) a) Draw a well-labeled 2 frame diagram for a perfectly competitive market showing the equilibrium price, market equilibrium quantity and firm's quantity.
b) If the firm's AC = $10 - Q +.1Q^2$, what is the long run equilibrium price quantity for the firm?
c) If market $Q_D = 375 - 10P$ and $Q_S = -400 + 50P$ and the demand doesn't change, do we have an equilibrium price? If not, what will change in the long run. How many firms will there be in the long run?

I have neither given nor received unfair aid on this test nor am I aware of anyone else who has.

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