Wilf Csaplar Jr.   Economics 280   Homework #2   Due 2/13

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. Failure to follow these directions will cost you 1 point on the assignment.

We will be meeting in Richardson 104 starting 2/11. It is on the same floor as the bridge and near it to the left.

1) (40 points) Suppose that the table to the right represents different combinations of prices, income, and advertising that cause different quantities of apples to be demanded. Find the own price elasticity of demand, cross-price elasticity of demand, income elasticity and advertising elasticity of demand. Be very careful. For each of the elasticities, there is only one pair of rows that can be used. You have to figure out which pair for each one.

P_{apples}	$P_{bananas}$	Income	Ads	Q_{apples}
$1/lb	$2/lb	$500	$10	20
$1/lb	$3/lb	$500	$10	25
$1/lb	$2/lb	$700	$10	26
$0.5/lb	$2/lb	$500	$10	24
$1/lb	$2/lb	$500	$20	22

Briefly explain how you chose the numbers and how you got the numbers. Then tell me what information can be gleaned from each of the numbers.

2) (30 points) The data on page two are made up and show the quantity of good X sold as a function of its price, the price of Y, and the amount of advertising firm X does. From that information, how good a predictor is the complete equation? Which variables are significant? Are goods X and Y substitutes, complements, likely to be substitutes, likely to be complements, or unrelated? For all questions, tell me how can you got your conclusions?

3) (20 points) Explain why an elastic demand curve will have a positive marginal revenue while inelastic demand curves have negative marginal revenue.

4) (10 points) Suppose that $Q_x^D = 50 - 2P_X + P_Y + 0.1M + 0.2A_X$. If $P_X = 6$, $P_Y = 1$, $M = 100$, and $A_X = 5$, then what is the own price elasticity of demand? Show all work and briefly explain what you are doing.

Note the data on the back of this page.

Observation	Qx	Px	Py	Ads
1	93	12	12	1
2	93	13	14	3
3	85	15	16	2
4	87	13	11	4
5	83	14	12	2
6	99	12	17	3
7	88	11	9	5
8	102	9	7	7
9	87	16	15	5
10	85	17	17	3
11	100	8	11	7
12	93	19	17	9
13	101	3	2	3
14	99	5	9	5
15	95	12	14	1
16	102	4	5	0
17	99	5	7	6
18	87	14	17	3
19	77	22	19	1
20	95	12	13	7

Regression Statistics

Multiple R	0.8768
R Square	0.7687
Adjusted R Square	0.7254
Standard Error	3.8071
Observations	20

Analysis of Variance

	df	Sum of Squares	Mean Square	F	Significance F
Regression	3	771.0870	257.0290	17.7327	2.4307E-05
Residual	16	231.9129	14.4945		
Total	19	1003			

	Coefficients	Standard Error	t Statistic	P-value	Lower 95.00	Upper 95.00
Intercept	101.5560	2.9182	34.8005	1.1384E-18	95.3696	107.7424
Px	-1.6787	0.3839	-4.3719	0.0003	-2.4927	-0.8647
Py	0.6270	0.4194	1.4948	0.1513	-0.2621	1.5163
Ads	0.8058	0.3570	2.2569	0.0359	0.0489	1.5627