This review sheet is intended to cover everything that could be on the exam. However, it is possible that I may have inadvertently overlooked something. You are still responsible for everything in the chapters covered except anything that I explicitly say you are not responsible for. Therefore, if I left something off of this sheet, it can still be on the exam. There will be no multiple-choice questions.   Most of the questions will be like the ones on the homework assignments, and possibly a few definition questions. I am more likely to ask questions that make you use definitions rather than have you recite them. I will probably ask one of the questions from the book at the end of the chapters.

The review session for this test will probably be Thursday, 3/5, at a time the class will determine.

Note that in past years, Chapter 3 was usually on Exam #1, so you will probably want to look at some of the old first exams as well as the old second exams.

There were some minor changes made to the syllabus. (I had forgotten to include handing back this exam.) The new syllabus is now posted.

Chapter 3: In general, elasticity is written as $E_? = \%\Delta Q_X / \%\Delta ?$ where "?" represents the type of elasticity. Be able to find the point price elasticity of demand and the arc elasticity of demand. What does the elasticity of demand tell us? How do total revenue and marginal revenue relate to the elasticity of demand? What determines the elasticity of demand? For income elasticity of demand and cross-price elasticity of demand, know how to calculate them, interpret what the numbers mean, and understand why different products have different elasticities. You should be able to calculate all elasticities using an equation like $Q_X = 3 + 0.1*I - 0.4P_X + P_Y$. How has e-commerce affected the elasticity of demand?

Chapter 3's appendix: Know the properties of indifference curves and why they have those properties. Know how to manipulate the indifference curve/budget constraint diagram to illustrate changes in price and/or income. Know what the slopes of the two types of curves are. Know how to find the income and substitution effects and how to derive the demand for a good. Hints: There are an infinite number of indifference curves and they do not move unless tastes change. Therefore, in this course, they will not be moving. **You will move to a different indifference curve, not move the indifference curve.** The income effect assumes the real income has changed. That is a parallel movement of the budget constraint because the relative price has not changed. The substitution effect assumes the real income is the same, so you must stay on the same indifference curve. When drawing the income and substitution effects, all three points, A, B, and C, must be on different budget constraints. Do not draw two of them on the same budget constraint. Do not have indifference curves cross or slope up. What is the equi-marginal principle? What are the slopes of the curves?

Chapter 4: Note that most of this chapter is thrown out because the topic would require more than two chapters to cover adequately, but you should know how to interpret results that are given to you. Therefore, if it is not listed here, you are not responsible for it. What is the identification problem? What are the advantages and disadvantages of consumer surveys, observational research, consumer clinics, and market experiments? Understand that a regression is trying to find the line with the equation $Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \ldots$ The X's are the data you are using to do the predictions and the Y is what you are trying to predict. So Y is usually Q_D and the X's are usually variables like price, income, other prices, etc. The equation is a straight line and the α and β's are the numbers that the computer calculates. Know what the *Adjusted R^2*, *Significance of F*, *coefficients, t-statistic*, *P-value*, *Lower 95,* and *Upper 95* mean and how to use them.

Non-graded Assignment #4A to be reviewed with Assignment #4.

1) (15 points each) For each of the following products, determine if you would use a consumer survey, observation, consumer clinic, or market experiment to estimate your demand. Explain your logic.
A) A new car model.
B) A new flavor of fruit drink.
C) A new guitar.

2) (25 points) Use an indifference curve/budget constraint diagram to find three points on the demand curve for oranges. Explain what you did.

3) (10 points each) Use the data below to answer the questions. This is actual regression results of running the test grade as a function of the number of absences between the tests for one of my classes.
A) Is the overall regression a good one?
B) What variable(s) are statistically significant? Explain your logic.
C) If you missed two classes, how much would you expect your grade to go down?

Regression Statistics

Multiple R	0.317769
R Square	0.100977
Adjusted R Square	0.092076
Standard Error	18.17445
Observations	103

Analysis of Variance

	df	Sum of Squares	Mean Square	F	Significance F
Regression	1	3747.112	3747.112	11.3442	0.001072
Residual	101	33361.38	330.3107		
Total	102	37108.5			

	Coefficients	Standard Error	t Statistic	P-value	Lower 95.00	Upper 95.00
Intercept	75.10582	2.415831	31.08902	4.50 E-7	70.31346	79.89818
Absences	-4.89159	1.452322	-3.36812	0.001069	-7.7726	-2.01057