

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 be Thursday, 2/22, at a time the class will determine.

Chapter 3.2 -3.5: In general, elasticity is written as  $E_y = \% \Delta Q_x / \% \Delta P_y$  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.

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  $Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots$ . 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  $\alpha$  and  $\beta$ '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. Basically, know what we did on assignment #4, questions #1 - #7.

1) (20 points) When would you want to do a consumer survey? Why would you do it then? What is the drawback of doing the survey?

2) (15 points) What is the identification problem? Illustrate it on a graph.

- 3) (10 points each) Use the table below to answer these questions. Explain how you reached each conclusion. The regression was to estimate the demand for apples.
- A) Are the results reliable enough for you to believe them?
- B) If your company spends \$100 on advertising, and charges \$1/apple, then how many apples would you expect to sell if oranges cost \$2/orange, melons cost \$1.5/melon, and your customers' average income was \$30,000. Show all work.
- C) Calculate the own-price elasticity of demand. Given your answer, do they have elastic demand, likely elastic demand, likely inelastic demand, inelastic demand, or is there not enough information? Explain your logic.
- D) Calculate the cross-price elasticity of demand with respect to oranges. Given your answer, are they substitutes, likely substitutes, complements, likely complements, or is there not enough information? Explain your logic.
- E) Calculate the cross-price elasticity of demand with respect to melons. Given your answer, are they substitutes, likely substitutes, complements, likely complements, or is there not enough information? Explain your logic.
- F) Calculate the income elasticity of demand. Given your answer, is it an inferior good, likely inferior good, normal good, likely normal good, luxury, likely luxury, or is there not enough information? Explain your logic.
- G) If you were to be the president of the company, would you do advertising? Explain your logic.

<b>Regression Statistics</b>						
Multiple R	0.90348814					
R Square	0.81629081					
Adjusted R Square	0.79541477					
Standard Error	40.0138727					
Observations	50					
<b>Analysis of Variance</b>						
	<i>df</i>	<i>Sum of Squares</i>	<i>Mean Square</i>	<i>F</i>	<i>Significance F</i>	
Regression	5	313031.3808	62606.2762	39.1018	4.083e-15	
Residual	44	70448.8403	1601.1100			
Total	49	383480.2211				
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Statistic</i>	<i>P-value</i>	<i>Lower 95.00</i>	<i>Upper 95.00</i>
Intercept	-364.3845	316.6732	-1.1507	0.2555	-1002.5974	273.8285
P apples	-130.0081	81.5613	-1.5940	0.1174	-294.3841	34.3679
P oranges	154.7931	88.8019	1.7431	0.0876	-24.1754	333.7615
P melons	39.9214	83.6042	0.4775	0.6351	-128.5717	208.4145
Income	0.4191	0.1830	2.2897	0.0264	0.0502	0.7880
Advertising	159.9736	80.1105	1.9969	0.0514	-1.4784	321.4257