

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 Tuesday, 2/19, at a time the class will determine.

Chapter 1: What do macroeconomics, microeconomics, and managerial economics mean? How and why do we use present value calculations for valuing the firm, doing a cost-benefit analysis, or determining whether a project is worthwhile to do? What is the principal-agent problem? Understand the difference between economic and business profits? Understand the five theories of how a firm can earn positive economic profits. Even though business ethics is an extremely important topic for the real world, it is barely relevant to this course and the book goes into too little detail to do the topic justice. Therefore, we are skipping it. Why are globalization and the internet important for a manager?

Chapter 1's appendix: Understand the difference between changes in demand and changes in quantity demanded. The same distinction applies to changes in supply and changes in quantity supplied. Know what moves each curve. Note that virtually nothing moves both curves, so do not move them both. However, if it is expected that prices in the future will change, then both curves will move. Also, since a good that is a complement or substitute in consumption **could** also be a complement or substitute in production, price changes in those goods **could** move both curves. If you are stuck about how the two products are related, they are probably substitutes or complements in production. Note that two of the three labels on the vertical axis on figures 1-2 through 1-6 are correct and one is wrong. The \$ should be \$/Q.

Chapter 2: Know the relationships between total, average and marginal. They apply to all variables that can have those three terms put in front of them. Know that $A \equiv T/Q$, and $M \equiv \Delta T/\Delta Q \approx dT/dQ$. When plotting them, the marginal goes through the minima and maxima of the average, if there are minima and maxima. Be able to prove that statement. Note that the marginal and average costs must have \$/Q on the y-axis while total costs has \$. Therefore, the three functions cannot be on the same graph, only the marginal and average can be on the same graph. Be able to fill in a big table with Q, TC, ATC, MC, P and TR. Be able to plot all of those functions. The derivative is the slope. If you have $Y = 100 - 5X + 3X^2$ or any similar function, you take each term separately. Multiply the constant by the exponent and reduce the exponent by 1. This will give you $dY/dX = 100 \cdot 0 \cdot X^{-1} - 5 \cdot 1X^0 + 3 \cdot 2X^1 = -5 + 6X$. Ignore pages 51 - 52, and the appendix because they involve more calculus than is necessary. However, pages 68 - 69 will help you to understand the derivatives. If you want to maximize or minimize a function, set the derivative equal to zero. What are benchmarking, TQM, re-engineering, and a learning organization? Understand why the five properties the TQM must hold to be successful and why the five properties of a learning organization are important for success. I will not ask you to list them, but I will ask a question like those on the homework assignment. One thing to note, the much of the discussion about TQM and about learning organizations apply to all of the managerial methods mentioned in the chapter.

Chapter 3: Understand the difference between demand and quantity demanded. What moves the demand curve? What causes movements along the curve? How do we get the industry demand curve from the individual demand curve? Why do the bandwagon effect and snob effect mean our demand curve will be wrong? What is the difference between the firm's demand curve and the industry demand curve? Ignore regressions for now. (They will be on test #2.) In general, elasticity is written as $E_p = \% \Delta Q_x / \% \Delta P_x$ 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 $Q_x = 3 + 0.1 * I - 0.4 P_x + P_y$.

This is the non-graded assignment #2A that will be covered with assignment #2.

1) (20 points) Suppose the straight-line demand curve is given by $P = mQ + b$, where m and b are numbers. Use the demand function to find the total revenue function. Use the total revenue function to derive the marginal revenue function. (Hint: Since m and b are numbers that do not change, pretend they are a number like 113.) Use this information to find the relationship between marginal revenue and demand for a straight-line demand curve. Show all work, briefly explain each step and explain how you reached your conclusion.

2) (10 points each) For each part, calculate the appropriate elasticity and tell me what that means about the good(s). Use point elasticity for Parts A - C and arc elasticity for Parts D - F.

- A) At a price of \$4/light bulb, 20 light bulbs are sold, but at a price of \$5/bulb, 14 light bulbs are sold.
- B) At an income of \$40,000/year, 10 dogs are sold, but at an income of \$50,000/year, 14 dogs are sold.
- C) At a price of \$1/banana, 20 apples are sold, but at a price of \$0.5/banana, 14 apples are sold.
- D) At a price of \$4/light bulb, 23 light bulbs are sold, but at a price of \$6/bulb, 17 light bulbs are sold.
- E) At an income of \$30,000/year, 14 dogs are sold, but at an income of \$20,000/year, 16 dogs are sold.
- F) At a price of \$1/banana, 20 apples are sold, but at a price of \$3/banana, 30 apples are sold.

3) (10 points) What value do you think oranges have for its own-price elasticity of demand? Explain your logic.

4) (10 points) What value do you think oranges have for its income elasticity of demand? Explain your logic.