

The total quiz is worth 20 points. Each question is worth 2 points, and each sub question is worth an equal share of the two points.

- 1) The demand curve is given to you as $Q=400-75*p$.
 - a. Fill out the following table (use the relatively higher price / relatively lower quantity pair in the elasticity calculation).

Price	Quantity	Elasticity
\$1.00		-----
\$2.00		
\$3.00		
\$4.00		
\$5.00		

- b. Draw this demand curve with price on the y-axis and quantity on the x-axis. Identify the range over which the demand curve is inelastic and over which it is elastic.

- 2) Taxes. In all cases, describe the original equilibrium price quantity pair, the price paid by consumers, the price received by producers, the size of the tax revenue, and the quantity supplied / demanded when the tax is imposed.

 - Illustrate on a graph the impact of an ad valorem tax placed on consumers.
 - Illustrate on a graph the impact of a specific tax placed on consumers.
 - Illustrate on a graph the impact of a specific tax placed on suppliers, noting specifically what happens if the producers attempts to “pass along” the entire tax of size τ to the consumers by increasing selling price at the original equilibrium quantity.

3) You are given that $p=50-4*q$ is the inverse demand curve and $p=10+6*q$ is the inverse supply curve.

a. What is the equilibrium price quantity pair if the market is perfectly competitive?

b. Illustrate the effect of a price floor set at \$46 on the graph.

c. Describe the outcome of this policy in terms of quantity supplied and quantity demanded. If there is excess supply or excess demand, describe the size of it in terms of the quantity of the shortage or surplus (calculate numbers here).

4) A local ski area is considering raising the price of an annual pass from \$1,000 to \$1,250. If the number of annual passes sold is 12,000 and the best available information suggests that the price elasticity of demand for annual passes is -1.8, answer the following questions.

a. What is the predicted membership level after the price is raised?

b. Compare total revenue for the ski area at the annual pass fee of \$1000 and at the price of \$1250. Which is higher?

c. Will a price decrease for the annual fee to \$900 from \$1,000 raise or lower annual revenue from the baseline of \$1,000 and 12,000 passes? By how much?

- 5) I know the price of nuts is \$2.00 per unit and the price of berries is \$4.00 per unit, the marginal utility of nuts at a bundle the consumer is considering buying is 3 and the marginal utility of berries is 4. This bundle is on the budget line.
- Explain why the bundle the consumer is considering buying is not the optimal bundle.
 - Is the optimal bundle going to be composed of more nuts and less berries or less berries and more nuts than the bundle under consideration? Why?
 - Show on graph that illustrates sample indifference curves and budget constraints where the consumption bundle described in the introduction to this problem lies in relation to the optimal bundle.

- 6) Supply and demand curves. Draw on a supply and demand curve for rice the impact of the following events. Draw the “pre-event” situation, and illustrate how the event described changes the graph, and the price-quantity equilibrium.

 - The price of pasta decreases and pasta is a substitute for rice.
 - New evidence suggests rice consumption has health benefits that were not known before.
 - Stricter environmental controls are put on rice production due to chemicals spilling over from rice fields into waterways used by endangered species.
 - A new variety of rice seed is developed that is more productive than current varieties, and exactly the same in all other characteristics.

7) Demand curves.

- a. Show how to derive a demand curve for an individual using indifference curves to illustrate preferences and a budget line to illustrate a constraint. Vary the price of the good on the x-axis and note the price consumption curve
 - b. Illustrate the impact of an increase in this consumer's income on consumption levels of the two goods using indifference curves to illustrate preferences and a budget line to illustrate a constraint. Note the income consumption curve.
 - c. Explain why the different consumption levels on the x-axis you derived in (b) correspond to "shifts" in the demand curve rather than movement along a given demand curve.

8) Circle whether the statement is true or false:

- a. A price decrease for a good that is inferior will have a larger total effect than substitution effect.

TRUE FALSE

- b. The substitution effect indicates that a price increase for a particular good leads to decreased consumption of that good holding utility constant.

TRUE FALSE

- c. Only if all prices used in calculating the CPI increase at the same rate will a cost of living adjustment based on the CPI will overcompensate recipients of this adjustment.

TRUE FALSE

- d. A Giffen good must also be an inferior good.

TRUE FALSE

- e. In a two good world, both goods must be normal to avoid violating the “more is better than less” assumption about preferences.

TRUE FALSE

- f. Indifference curves shift outward when a consumer’s income changes

TRUE FALSE

- 9) A food stamp policy is put in place in a state. For our representative consumer impacted by this policy, their initial income of Y is supplemented by a cash value of food stamps of \$100. The initial budget constraint is $y = p_f \cdot f + p_o \cdot o$, where f is food, o is all other goods, and the two prices are subscripted by their commodity.
- a. Draw the original budget line and the budget line after the food stamp policy is implemented.
 - b. Representative McPeak is outraged to find out recent studies indicate that spending on other goods went up by 14% following the implementation of the food stamp policy. He says this shows that there is mass corruption in the administration of the program and the program should be abolished since it is being misused. Illustrate for him on a graph why increased spending on other goods as a result of the policy could occur for reasons other than corruption.

10) Over the course of the fall, the price of jump ropes has gone up by 9%. Elmo is claiming credit, as his new video for toddlers released in August shows kids how to exercise using jump ropes and this video has sold well. Telly is not so sure about this, and argues that the price increase is due to increases in production and transport costs related to increased fuel prices over the course of the fall.

a. Graph Elmo's argument on a supply and demand graph.

b. Graph Telly's argument on a supply and demand graph.

c. Which explanation is more consistent with the facts if the quantity sold of jump ropes also increased by 4%? Justify your answer.