

Economics 105

Name _____

Pledge: *No Aid; No Violations*

Sign _____

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Quiz #1

Note: Please answer in the space provided. Scrap paper is available in the front of the room. The examination will end at 10:50 sharp. Show your calculations in order that you may receive partial credit even if you make a numerical error.

1. The graph shows the sugar market in Econoland. Please label the demand curve “D” and the supply curve “S” and the competitive equilibrium point “e”. The equilibrium quantity sold is ____ tons; the equilibrium price is _____. Consumer surplus is \$_____.

2. The elasticity of demand at point e is _____.

3. Suppose that sugar sells in the world market at 20 cents per pound but it has been illegal to import it into Econoland. Senator Sweet-Tooth introduces legislation to allow sugar to be imported from abroad without restriction. Now suppose that shipping sugar into Econoland adds 5 cents to the cost of selling imported sugar in Econoland. What will be the effect of allowing sugar to be freely imported into Econoland on the price of sugar, the quantity of sugar consumed, the quantity of sugar produced, and consumer surplus? Be sure to explain your estimates carefully.

4. Senator Corn-Syrup objects that allowing the free importation of sugar would undermine the integrity of farming in Econoland. He argues that a 5-cent tariff should be imposed on imported sugar and that the government should pay a 5-cent per pound subsidy to the sugar farmers. What will be the effect on the price of sugar? How much sugar will be imported? How much sugar will Econoland farmers produce? What will the subsidy cost the government? Explain carefully, below, on the back of page 1, and on the graph.

Part II: Here are five tricky statements. Place a *T* in front of each True statement; place an *F* in front of each false statement. Now carefully explain on the back of this page what is wrong with one (only 1) false statement. Use a graph to clarify your explanation.

1. If the price elasticity of demand for cigarettes is $\frac{1}{2}$, a tax of 20% on each pack of cigarettes sold will cause the quantity sold to fall by 10%.
2. The imposition of a price ceiling will create a shortage while the imposition of a price floor will cause a surplus.
3. In order to maximize the sum total of happiness (i.e. utility) it is necessary to give equal shares to all.
4. More is better implies that marginal utility is positive, that indifference curves have negative slopes, and that indifference curves cannot cross.
5. If the marginal rate of transformation between wool and wine for Portugal is greater than it is for Britain, then the countries could both gain through international trade.
6. Utility maximizers obey the Law of Demand — their demand curves are negatively sloped. A consumer who purchases more of a commodity when its price rises cannot be a utility maximizer.

Honors Option: Please read over your answers to the rest of the exam before attempting this problem; no partial credit!

Maxwell's utility function is $U = \frac{1}{4} \ln X + \frac{3}{4} \ln Y$. (Here \ln denotes the log to the base e). His income is \$100, the price of X is \$10 and the price of Y is \$20. How much X will Maxwell buy? Solve for Maxwell's demand function for X .