

Sample questions and exam



**ASSIGN
BUSTER**

Sample questions Note: The purpose of providing sample questions is to show the format of questions that will be given in the midterm exam. The midterm exam will have more of both true-false questions and short answer problems than those presented here. For more short-answer problem types please look at the exercises sets.

True-false questions: T Consider the two statements: I. X is an inferior good. II. X exhibits Giffen's Paradox.

The following is true: II implies I, but I do not necessarily imply II. F T F

Suppose that at current consumption levels an individual's marginal utility of consuming an extra hot dog is 10 whereas the marginal utility of consuming an extra soft drink is 2. Then the MRS (of soft drinks for hot dogs)—that is, the number of hot dogs the individual is willing to give up to get one more soft drink is 1/5. If the price of X falls, the budget constraint shifts inward in a parallel fashion. T F T F Suppose a cup of coffee at the campus coffee shop is \$2.50 and a cup of hot tea are \$1.25. Suppose a student's beverage budget is \$20 per week. The algebraic expression represents the budget constraint.

Suppose a cup of coffee at the campus coffee shop is \$2.50 and a cup of hot tea are \$1.25. Suppose a student's beverage budget is \$20 per week.

Suppose the student simply prefers more caffeine to less and that the tea sold has exactly one-third the caffeine as the coffee. The student will buy a mix of coffee and tea. T F (The student will buy only coffee) T F In economic theory, the demand for a good must depend only on income and its own price and not on the prices of other goods. T F If two goods are substitutes, then an increase in the price of one of them will increase the demand for the

other. T F If consumers spend all of their income, it is impossible for all goods to be inferior goods. A good is a luxury good if the income elasticity of demand for it is greater than.

1. A rational consumer spends her entire income. If her income doubles and prices do not change, then she will necessarily choose to consume twice as much of every good as she did before. Walt consumes strawberries and cream but only in the fixed ratio of three boxes of strawberries to two cartons of cream. At any other ratio, the excess goods are totally useless to him. The cost of a box of strawberries is 10 and the cost of a carton of cream is 10. Walt's income is 200. How many boxes of strawberries does Walt demand? Ans: Walt demands 12 boxes of strawberries. (NOTE that the utility function is $U = \min\{2x, 3y\}$)
 2. Fanny consumes only grapefruits and grapes. Her utility function is $U(x; y) = x^3y^6$; where x is the number of grapefruits consumed and y is the number of grapes consumed. Fanny's income is 48, and the prices of grapefruits and grapes are 1 and 3, respectively. How many grapefruits will she consume? Ans: 16
 3. Katie Kwasi's utility function is $U(x_1; x_2) = 2(\ln x_1) + x_2$. Given her current income and the current relative prices, she consumes 5 units of x_1 and 20 units of x_2 . If her income 2 doubles, while prices stay constant, how many units of x_1 will she consume after the change in income? Ans: 5
3. Suppose a new healthcare initiative for the working poor will be paid for with a reduction to the earned income tax credit. Suppose the average working poor family has an income of \$12, 000

from work and an additional \$4000 from the EITC. If there are two goods, H (healthcare) and C (all other consumption), what will be the equation for a budget line with the EITC? (Let prices of all goods and healthcare be normalized to 1). Ans: $C = \$16,000 - H$

4. Suppose a teenager has \$20 and likes both rap music (R) and country music (C) with a set of preferences so that $U = C^{1/2}R^{1/2}$. Suppose that the iTunes price of a rap music song is and the price of a country music song is. What is the greatest level of affordable utility?