

Problems (introduction & budget constraint)

1. Suppose that we have 8 people who want to rent an apartment. Their reservation prices are given below. (To keep the numbers small, think of these numbers as being daily rent payments.)

Person = A B C D E F G H
Price = 40 25 30 35 10 18 15 5

- Plot the market demand curve
 - Suppose the supply of apartments is fixed at 5 units. What is the price that would make the demand for apartments equal to 5 units?
 - What if the supply of apartments increases to 6 units. What is the range of equilibrium prices?
2. Let the budget constraint of a consumer be $P_x x + P_y y = I$.
- Let a consumption tax of t per unit be placed on good x . Write the new budget constraint.
 - Let a subsidy of $s\%$ be placed on y . Write the new budget constraint.
 - Let a lump sum tax of t be applied to income. Write the new budget constraint.
3. Will a general rise in prices and income by the same percentage (say, all increase by 10%, for example) make consumers worse off, better off, or is the effect of such a change uncertain? Explain your answer.
4. Suppose that the price of good A is \$2 and the price of good B is \$4 and the consumer's income is \$60. If consumption of good A is plotted on the horizontal axis and the consumption of good B is plotted on the vertical axis, what is the slope of the budget line?
5. Suppose that the price of good A is \$4, the price of good B is \$2 and the consumer's income is \$60. Which of the following baskets is not on the consumer's budget line?
- A = 20, B = 5
 - A = 10, B = 10
 - A = 5, B = 20
 - A = 15, B = 0
6. There are 3 goods. The price of good 1 is -1 , the price of good 2 is $+1$, and the price of good 3 is $+2$. It is physically possible for a consumer to consume any commodity bundle with nonnegative amounts of each good. A consumer who has an income of 10 could afford to consume some commodity bundles that include 5 units of good 1 and 6 units of good 2.

7 Young Alasdair loves lollipops and hates oatmeal. To induce him to eat enough oatmeal and to restrain him from eating too many lollipops, his mum pays him 10 pence for every quart of oatmeal that he eats. The only way that he can get lollipops is to buy them at the sweet shop, where lollipops cost 5 pence each. Besides what he earns from eating oatmeal, Alasdair gets an allowance of 10 pence per week. If Alasdair consumes only oatmeal and lollipops and if his consumption bundles are graphed with quarts of oatmeal on the horizontal axis and lollipops on the vertical axis. What is the slope of Alasdair's budget line?

8. Does getting food stamps equivalent in money improves consumer well-being?

9) If preferences are transitive, more is always preferred to less.

T/F

10) A person with reflexive preferences is someone who does not shop carefully.

T/F

11) If someone has the utility function $U = 1,000 + 2 \min \{x, y\}$, then x and y are perfect complements for that person.

T/F

12) If preferences are convex, then for any commodity bundle x , the set of commodity bundles that are worse than x is a convex set

T/F

13) If Melody has more classical records than rock and roll records, she is willing to exchange exactly 1 classical record for 2 rock and roll records, but if she has more rock and roll records than classical records, then she is willing to exchange exactly 1 rock and roll record for 2 classical records. Melody has convex preferences.

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