Chapter 22 Practice Problems

Elements of Microeconomics - Section 4

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Question 1

Suppose a consumer has a budget of $100. They consume two goods: apples and bananas. The price of apples is $2 per unit, and the price of bananas is $4 per unit.

1. Write the equation for the consumer's budget constraint and draw the graph.
2. If the consumer spends their entire budget, how many units of apples and bananas can they buy if they allocate $40 to apples and the rest to bananas?
3. The consumer prefers to have an equal number of apples and bananas. Given this preference, how many of each would they buy? How are these indifference curves represented graphically?
4. A different consumer prefers to consume 2 apples for every banana they consume. Given this preference, how many of each would they buy? How are these indifference curves represented graphically?

Question 2

A consumer has a budget of $120 and consumes two goods: pens and notebooks. Initially, the price of a pen is $4, and the price of a notebook is $6.

1. Write the initial equation for the consumer's budget constraint. Draw the graph for the budget constraint
2. Assume the consumer spends an equal amount on each good. Label the optimal consumption point.
3. The price of pens rises by $2. Show the change in the budget constraint in your diagram. Assume now that the consumer spends only 30% of their income on notebooks. Label the new optimum.
4. What happened to the quantity of pens consumed as a result of the price change? Explain this using the income and substitution effects.
5. Use the two points found to draw the consumer's demand curve for pens. What kind of good is this?

Question 3

Consider a situation where you order both a soft drink and pizza together. The pizza shop has weeks in which they have deals on pizzas that make them cheaper.

1. Show using budget constraints and indifference curves how this decrease in the price in pizza could lead you to either consumer more, less, or the same amount of soft drinks.

2. What property of consumer theory is driving these different results?

3. Explain the magnitude of the substitution and income effects in each scenario for soft drinks.