

# The Digital Economist

Intermediate Microeconomics

## Review Exercise: Consumer Theory

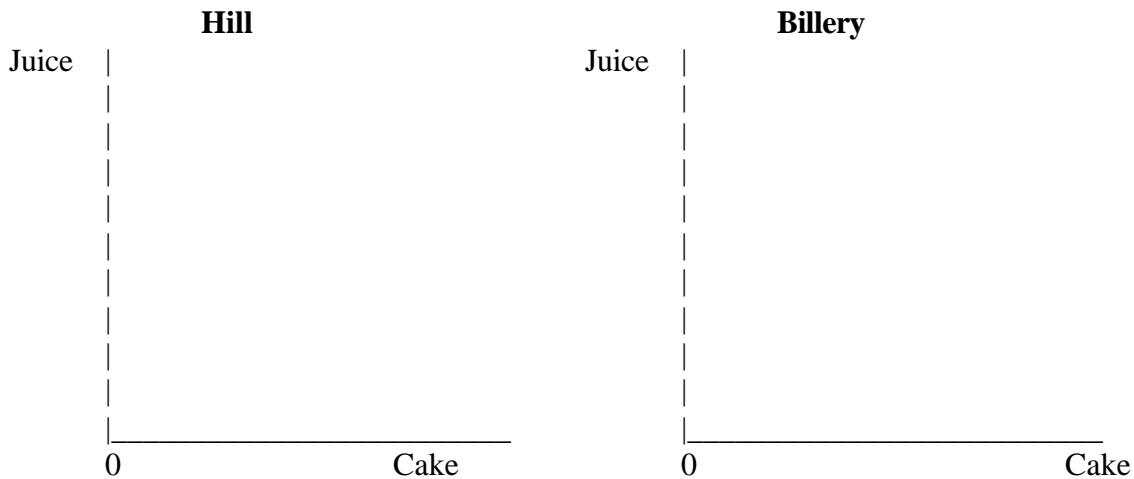
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### *The Adventures of Hill and Billery*

Hillary and Hill live in Pleasantown. Life is good, life is simple. Hill and Hillary have just met. Hill says "I like juice". Hillary says "I like cake". "Oh yes!" says Hill, "I like cake too". Hillary says "I also like juice". Simple life, *simple* preferences.

For Hill, juice and cake are *perfect complements* such that she likes to consume 1 bottle of juice while eating one cake. Hillary treats these two goods as *perfect substitutes* such that his marginal rate of substitution for juice and cake is always 1:1.

The price of juice ( $P_j$ ) is \$2.00 and the price of cake ( $P_c$ ) is \$4. Hill and Hillary each have the same income of \$60.00. Identify an individual consumer optimum for each person by drawing the budget line and indifference curve that corresponds to the highest level of utility in the diagrams below:

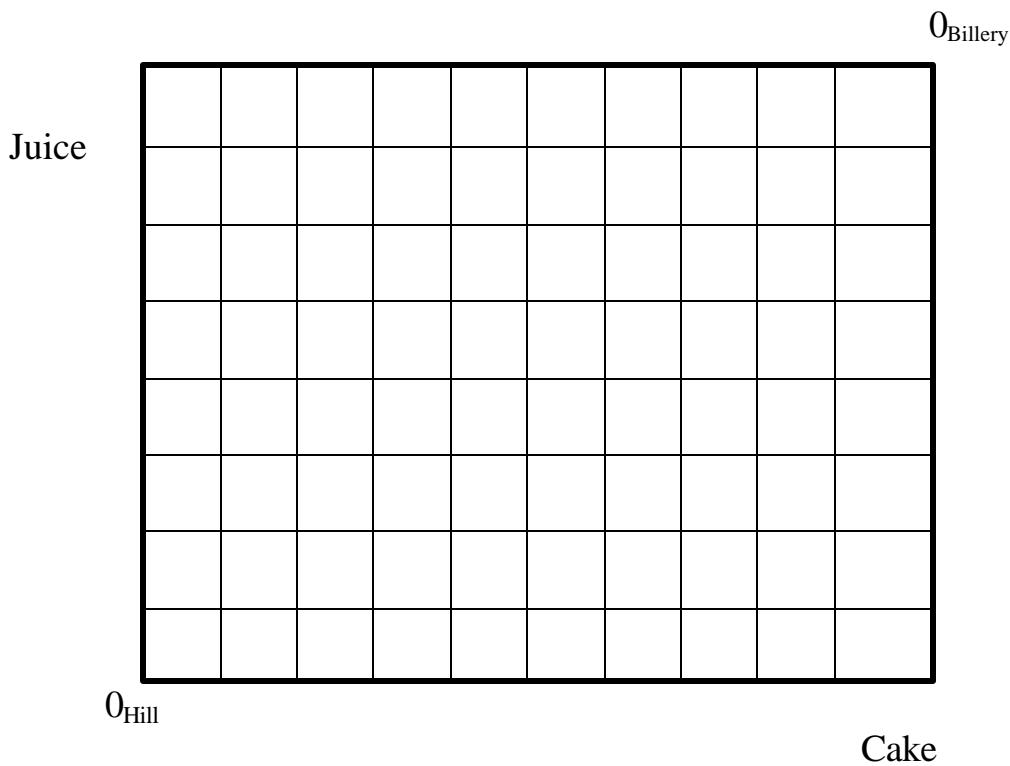


In the above diagrams, show how Hill and Hillary will respond to a reduction in the price of Cake to \$3 ( $P_c' = \$3$ ).

In Pleasantown, life is *always* pleasant. Nothing is inferior. Discuss why both goods for Hill and Hillary must always be *normal goods*.

2. As two people often do, Hill and Billery enter into a courtship. Courtship involves negotiation. Hill has an endowment of 6 bottles of juice and 2 units of cake. Billery enters the union with an endowment of 2 bottles of juice and 8 units of cake. There is no production of either of these two goods.

Using this information, identify the endowment point for Hill and Billery in the Edgeworth box diagram below. Draw in appropriate indifference curves for each person passing through this endowment point. Remember that Hill's preferences are perfect complements and Billery's preferences are perfect substitutes. (*Life is still practically perfect in every way* -- identify the negotiation space defined by the initial endowment point.



Will these two individuals trade with one-another? \_\_\_\_\_ If so, what are the potential outcomes of trade?

Suppose that Hill offers Billery a terms of trade of 1 juice for 3 units of cake. Would Billery accept these *terms*? \_\_\_\_\_ Explain.