

## Microeconomics, Module 3: "Consumer Behavior"

### *Homework Assignment*

(The attached PDF file has better formatting.)

Updated: May 31, 2005

The homework assignment is based on one of the illustrative test questions. It shows how relative price changes combine with consumers' tastes to increase or decrease utility. For Parts A - D, shows a one line derivation of the answer. For Parts E and F, explain in one paragraph why Rachel is better off or worse off and explain in one paragraph why Jacob is better off or worse off.

### *CHANGES IN RELATIVE PRICES*

Recently, the price of bread has risen from \$4 to \$6 per loaf and the price of wine has fallen from \$8 to \$6 per flask. Rachel's and Jacob's food budgets have stayed fixed at \$48 per week for each. The table below shows the weekly purchases of bread by Rachel and Jacob before and after the price changes; the remaining income is spent on wine.

|               | <i>Bread Purchased</i>     |                           |
|---------------|----------------------------|---------------------------|
|               | <i>Before Price Change</i> | <i>After Price Change</i> |
| <i>Rachel</i> | 4 loaves                   | 2 loaves                  |
| <i>Jacob</i>  | 8 loaves                   | 5 loaves                  |

- Before the price change, Rachel bought 4 loaves of bread and spent the rest of her food budget on wine; after the price change, Rachel buys 2 loaves of bread and spends the rest of her food budget on wine.
  - Before the price change, Jacob bought 8 loaves of bread and spent the rest of his food budget on wine; after the price change, Jacob buys 5 loaves of bread and spends the rest of his food budget on wine.
- A. How much wine did Rachel buy before the price change? (How much money is left in Rachel's budget after buying bread, and how many flasks of wine does this buy?)
  - B. How much wine does Rachel buy after the price change?
  - C. How much wine did Jacob buy before the price change?
  - D. How much wine does Jacob buy after the price change?
  - E. Could Rachel buy the same basket of wine and bread after the price change that she bought before the price change? Since she decides to buy something else, is she better off or worse off after the price change?
  - F. Could Jacob have bought the same basket of wine and bread before the price change that he buys after the price change? Is he better off or worse off after the price change?

To answer the homework questions, use the following relations:

1. The price of bread increased; both Jacob and Rachel buy less bread.
2. The price of wine has decreased; both Jacob and Rachel buy more wine.
3. Rachel likes wine; both before and after the price change, she spends more on wine than on bread.
4. Jacob likes bread; both before and after the price change, he spends more on bread than on wine.