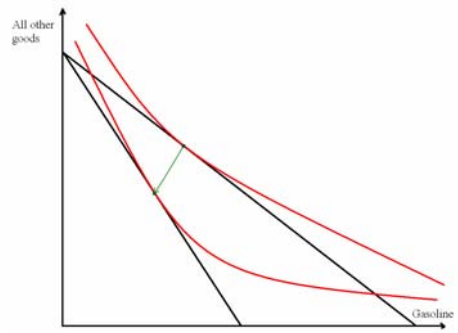
MICROECONOMICS 1 **1/12/2011**
CLASS #9

SLUTSKY EQUATION

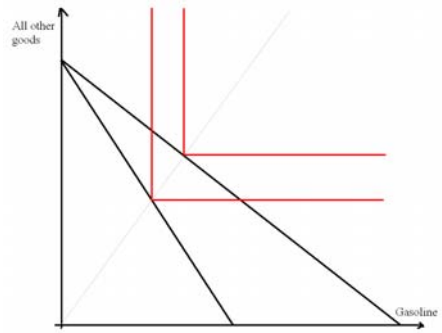
Problem #1

Gasoline prices have recently increased. Below you can find graphs representing the change in the situation of three typical "consumers" of this good. We know that they have all limited the amount of gasoline consumption, but we do not know whether this was mainly due to the substitution effect (they buy less gasoline because it is relatively more expensive) or due to the income effect (their real income has decreased due to the increase in prices). Determine for which of them gasoline is a normal good and for which of them – an inferior good. Specify which individual demand will be more elastic and which will be less elastic. Present both the Slutsky and Hicks substitution and income effects.

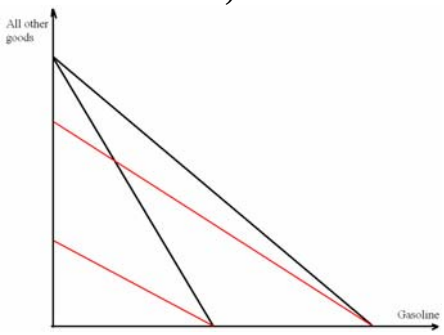
a)



b)



c)



Problem #2

Why is demand for cars like BMW more elastic than demand for other less luxurious cars, e.g. Ford? Make use of the Slutsky equation and graphical analysis.

Problem #3

Giffen goods are goods for which demand increases together with an increase in the price. Usually they are mentioned together with the story of the Irish and potatoes.

a) Graph the demand, derived from the Slutsky equation, illustrating a Giffen good.
b) Demonstrate that within the choice space a Giffen good can only co-exist with a normal good.
c) Demonstrate that a Giffen good must also be inferior.

Problem #4

Assume that Jack's utility function is $U = club*cinema$. He wants to have some fun during the weekend – he can stay in Warsaw where $P_{club} = 40$ *zloty* and $P_{cinema} = 20$ *zloty* or travel to Sopot where prices of these goods are, respectively, $P_{club} = 10$ *zloty* and $P_{cinema} = 20$ *zloty*. Jack has no particular feelings about the trip (neither dislikes it nor appreciates it). He plans to spend 200 *zloty* during the weekend.

a) What is the maximum amount he is willing to pay for a ticket to Sopot?
b) Assume $P_{cinema} = 10$. Find Jack's elasticity of demand for club visits.

Problem #5

A consumer's demand for good x is $x(p_x,p_y,m) = 2m/5p_x$. His income is 500, while prices are: $p_x = 5$ and $p_y = 20$. Following a decrease in the price of good x to the level where $p_x' = 4$, demand for this good increased by 10. What part of this increase can be attributed to the (Slutsky) substitution effect?