MICROECONOMICS 3 **18/11/2011**
CLASS #6

ADDITIONAL PROBLEMS

Problem #1

The economy consists of two consumers and two goods (there is no production). Utility functions of consumers are given by the following formulas: $U_1(x_{11}, x_{12}) = x_{11}^{1/3}x_{12}^{2/3}$, $U_2(x_{21}, x_{22}) = min\{x_{21},x_{22}\}$. For what initial resources of consumers the allocation $x_1 = x_2 = (1/2,1/2)$ – which is Pareto-optimal – can be reached as a market equilibrium point?

Hint: assuming that $w_{11}+ w_{21} = 1$ and $w_{12}+ w_{22} = 1$, the equilibrium price ratio for point $x_{11} = x_{21} = (1/2,1/2)$ amounts to $p_2/p_1 = 2$.

a) $w_{11}= 2/3$, $w_{12} = 5/12$
b) $w_{11}= 2/3$, $w_{12} = 7/12$
c) $w_{11}= 1/3$, $w_{12} = 5/12$
d) Will not be reached because with the given utility functions the assumptions of the Second Theorem of Welfare Economics are not fulfilled.