

## Exercises for seminar week IX, November 16 - 19, ECON3215/4215, fall 2010

### A

Consider a pure exchange economy with two consumers,  $A$  and  $B$ , and two goods. The utility functions are:

$$u_A(x_1, x_2) = x_1^a x_2^b,$$

$$u_B(x_1, x_2) = \min(x_1, x_2).$$

The parameters  $a$  and  $b$  are both positive.

- Calculate the Marshallian (uncompensated) demand function for each of the consumers.
- There are 10 units of each good in the economy. Characterize the Pareto efficient (Pareto optimal) allocations. Draw an Edgeworth box to illustrate the result.
- If  $A$  initially owns the 10 units of good 1 while  $B$  owns the 10 units of good 2, and the goods are traded competitively, what are the market clearing prices and the equilibrium allocation?
- Answer part c) if initial ownership is opposite, that is,  $A$  owns the 10 units of good 2 while  $B$  owns the 10 units of good 1.
- Assume now in addition that  $a + b = \frac{1}{2}$ . Find the welfare maximizing allocation when the welfare function is given by

$$W(u_A, u_B) = u_A + \frac{1}{4} u_B.$$

### B

Cowell problem 10.2 (page 322)

### C

Cowell problem 10.6 (page 323 - 324)