

LECON2112 Advanced Microeconomics II

– Assignment 9 –

Professor Benoît Decerf

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Deadline: Monday, April 29, 2024 at 5pm.

Instructions: To be submitted via Moodle as a single file (including your name and NOMA).

Exercises¹

11Ba. We have 2 agents (1,2). We have 2 goods, one private good in which both have an endowment (w_1 and w_2 respectively) and pollution. Their utility functions are $u_1 = x_1 + -(h - 5)^2$ and $u_2 = x_2 - h$ where x is the amount of the private good they enjoy and h the amount of pollution they experience. 1 is the one choosing the level of h .

- (a) What will happen if only the private good is transferable from one agent to the other? Is it Pareto efficient?
- (b) Let's now say that we have a market for h . To produce a unit of h , 1 must buy a permit from 2. What amount of h will be produced? Is it Pareto efficient?

¹Source: Mas-Colell, Whinston, & Green, 1995. "Microeconomic Theory," Oxford University Press.