

due : Wednesday November 22 before class

Do all 5 questions. Each counts 20%.

1. What does the contract curve look like for a 2–person, 2–good exchange economy, with a total endowment of 60 units of good 1 and 120 units of good 2, if the preferences of the two people could be represented by the utility functions

$$u^1(x_1^1, x_2^1) = \ln x_1^1 + 2 \ln x_2^1$$

$$u^2(x_1^2, x_2^2) = 112 - \frac{1}{x_1^2} + \ln x_2^2$$

where x_j^i is person i 's consumption of good j ?

2. What are all the allocations in the core of a 3–person, 2–good economy, in which each person's preferences can be represented by the utility function

$$u^i(x_1^i, x_2^i) = x_1^i x_2^i$$

where x_j^i is person i 's consumption of good j , and where the endowments e^i of the three people are $e^1 = (2, 0)$, $e^2 = (0, 2)$, $e^3 = (1, 1)$?

3. Calculate the competitive equilibrium for the 2–person, 2–good economy described in question #1, if person 1's endowment was $(0, 30)$, and person 2's endowment was $(60, 90)$.

4. What are the core allocations to the economy described in question #2 above if, instead of 3 people, there were $3N$ people, N of each type, where N is large? (That is, all people have the same utility function, N of them have the endowment vector e^1 , N of them have the endowment vector e^2 , and N of them have the endowment vector e^3 .)

over

5. Find all the pure-strategy Nash equilibria in the following strategic-form two-person game.

	<i>LL</i>	<i>L</i>	<i>R</i>	<i>RR</i>
<i>tt</i>	(8, 8)	(3, 5)	(2, 4)	(0, 1)
<i>t</i>	(8, 3)	(9, 4)	(4, 0)	(2, 2)
<i>b</i>	(6, 5)	(1, 2)	(6, 4)	(5, 0)
<i>bb</i>	(4, 4)	(0, 8)	(3, 8)	(10, 7)