Quiz 3

1. Consider 2 individuals who consume two goods: and . The utility function of individual 1 is

and the utility function of individual 2 is

The initial endowments of individual 1 is which means she has 4 units of x and 6 unit of y. The initial endowments of individual 2 is which means she has 3 units of x and 3 unit of y.

1. Draw an empty Edgewoth box, and then indicate the initial endowments on your graph.
2. Draw the indifference curve of each individual passing through her initial endowments.
3. Show that no-trade is inefficient using your Edgeworth box.
4. Compute the demand for by individual 1 and 2.
5. Compute the perfectly competitive equilibrium price.
6. Indicate the equilibrium on the same Edgeworthbox.
7. Draw the indifference curves passing through the competitive equilibrium.
8. Show that the equilibrium is efficient.
9. Assume that the utility of a worker is

She has 24 hours available to her. The hourly wage is .

1. Compute the marginal rate of substitution between and ?
2. What is the budget constraint of the worker?
3. Find the labor supply curve.
4. Suppose that the worker pays a lump-sum tax so that her budget constraint is

Calculate the labor supply curve.

1. The same question as above but the worker works for a firm whose production technology is
2. Write the profit of the firm.
3. Calculte the labor demand.
4. Compute the competitive equilibrium.