Exercises seminar 4. ECON3200-ECON4200.

1. **Market demands.** Two individuals have each the following utility functions:

   $U_a (x_1, x_2) = \ln x_1 + \ln x_2$;

   $U_b (x_1, x_2) = x_1^{\frac{1}{3}} x_2^{\frac{2}{3}}$.

   (a) Determine the market demand for good 1 when price of good 2 is 1 and the money available to each individual is $m_a = m_b = 1$.

   (b) Assume the government taxes the consumption of good 1 with a **value tax** τ. How does the tax affect the market demand of good 1?

   (c) For individual a determine the income elasticities of the two goods and their relationship in terms of expenditure shares.

2. **Equilibrium.** Consider the supply function for good 1, $S (p_1) = p_1$.

   (a) Using the market demand determined above, find the competitive equilibrium prices and quantity for good 1 with and without value tax.

   (b) What is the reduction in consumer surplus implied by the value tax?