Exercise 1

Problem 1: Consider two countries, France and Germany. Both have heavy and light industries and produce according to the following unit input requirements:

	France	Germany
light	$a_l^F = 8$	$a_l^G = 10$
heavy	$a_h^F = 4$	$a_h^G = 2$

The labor force in both regions is 5000. Furthermore, assume that the representative consumer in both regions has the utility function $U(x_l, x_h) = x_l^\beta x_h^{1-\beta}$, where the exponent β is initially $1/3$.

a) Suppose both regions cannot trade with each other. Depict both regions' PPF. At which point will they produce and consume? What is the respective utility level attained by the representative consumer? Which region has the comparative/absolute advantage in which commodity?

b) Suppose now trade becomes possible. Construct the relative supply schedule and depict it in the same diagram as the (precise) relative demand schedule. What is the equilibrium relative price? Calculate each countrys imports and exports. What are the resulting utility levels, and how do they compare to the autarky situation?

c) Repeat part b) for $\beta = 1/2$. How do you interpret the difference in results?

d) Repeat part b) for $\beta = 2/3$. How do you interpret the difference in results?

Problem 2: Consider the continuous version of the Ricardo trade model as proposed by Dornbusch, Fischer and Samuelson (1977). Study the impact of

a) Technological improvement at home

b) Technological improvement abroad.