ADDITIONAL PROBLEM

<u>Problem #1</u>
In a certain autarchic economy the production function of good X takes the form $X = 100K^{0.5}L^{0.5}$, where K is capital, and L is labor. Capital and labor are, however, perfect complements in the production of good Y and employing one unit of capital and one unit of labor allows to produce 100 units of good Y. The total capital resources amount to 100 units. The same is true for total labor resources.
a) Present the Edgeworth box and indicate the contract curve therein.
b) Derive the production possibilities frontier for this economy and present it graphically.
c) If the social utility function takes the form $U(X,Y) = XY$, what amounts of goods X and Y will be produced?
d) If this economy decided to take part in international trade and the ratio of world prices p_X/p_Y exceeded an analogous price ratio in autarchy, how would the production and consumption possibilities change? Which of the goods would be produced in an increased amount and the production of which of them would decrease? Explain the benefits of trade phenomenon.