You are not allowed to consult any notes or books. You have to write your answers in the blue book that the persons proctoring the exam give you. Your answers should reflect only your knowledge. Attempting to consult with others or to look at someone else's work constitutes academic misconduct.
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Name:.....
Section (number or time): .....

Econ 464
Spring 2008
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Midterm 1 (Total Points: 100)

(I) Ricardo

Consider a Ricardian Model of two countries (Home and Foreign) and two goods (Textiles and Corn). The production technologies are specified by the unit labor requirements shown below:

	Home	Foreign (*)
Textiles(T)	1/4	1/3
Corn (C)	1/6	1/3

Suppose that Home has **50** units of labor and that Foreign has **100** units of labor. In addition assume that consumers have "nice" indifference curves and that both commodities are consumed in autarky.
Answer the following questions. Justify fully. Use a diagram or an equation when you are able to do so.

(1) (4 pts) Graph the production possibilities frontier and a possible autarky point for both countries (please use the horizontal axis for Corn).
(2) (4 pts) What are the autarky relative prices p_C / p_T in each country? Which country has a comparative advantage in textiles?

Free trade
Suppose that when both countries trade freely, the relative price of Corn in terms of Textiles is 3/4, i.e. the free trade prices are $\mathbf{p_C/p_T = 3/4.}$
(3) (4 pts) What is the pattern of trade? Draw a new graph for Home showing: the free trade production point, a plausible consumption point, exports and imports (please use the horizontal axis for Corn).
(4) (9 pts) Show with a new diagram how Home's gains from trade can be divided in gains from exchange and gains from specialization.
(5) (6 pts) Calculate Home's real wage in terms of Textiles under to free trade.
(6) (6 pts) Assume that textiles is used as a numeraire (i.e. $p_T = 1$) and that the countries are trading freely at the specified free trade prices ($p_C/p_T = 3/4$). What is the Average Cost of Corn in the Home Country?
(7) (8 pts) Draw the World Relative Supply Curve (put p_C/p_T in the vertical axis, $C + C^* / T + T^*$ in the horizontal axis and identify where the jump occurs). Draw a "nice" World Relative Demand curve that crosses the World Relative Supply curve at the stated free trade price ratio.

Suppose now that technological discoveries at **Home** ***triple labor productivity in both Textiles and Corn*** (i.e. the marginal product of labor in Textiles is now **12** and in Corn **18**). Suppose further that both countries are still trading freely. Answer questions (8) and (9).
(8) (6 pts) What will happen to the equilibrium free trade prices? (Use the World Relative Supply and Demand Diagram to show this).

(9) (9 pts) Suppose that the president of the Home country announces that he will stop trading with Foreign because he believes that now that his country is much more efficient his citizens are not gaining anything from this trading relationship. Furthermore he claims that the typical citizen is consuming exactly the **same bundle** as he/she would consume in autarky.

Do you think that his claim is valid? Justify using a complete explanation and/or a diagram.

(II) Specific Factors Model

Consider a country that can produce two commodities (Cloth and Soy) using three factors (capital, land and labor). The country has fixed endowments of the three factors. The production of Cloth (C) uses capital (K) and labor, while the production of Soy (S) uses land (T) and labor. Therefore labor is a mobile factor while capital and land are specific factors. Production technologies follow the assumptions listed in class. In addition the country has "nice" community indifference curves.

Free Trade:
Assume that the country is trading freely with the rest of the world at **prices p_S/p_C** that are **higher** than the autarky prices.

(1) (6 pts) Show a possible free trade equilibrium (draw a plausible PPF, indifference curves and identify possible production and consumption points). **Please use the horizontal axis for Soy**.

Free Trade at Fixed World Prices after Global Warming:
Suppose now that due to global warming, rainfall has become erratic and as a result Soy production has been affected in the following way:
"For every combination of land and labor, Soy output is now 30 % lower"
Assume the country continues to trade at **Fixed World Prices** and that global warming has no effect on the production of Cloth.

In the following questions (2 -6) you are asked to evaluate the qualitative effects of global warming on several variables assuming that the country continues to trade at fixed world prices.

(2) (12 pts) Use a diagram to show what happens to labor allocation across sectors and to the wage as a result of global warming.

(3) (4 pts) What happens to Soy and Cloth output? Justify.

(4) (4 pts) Are workers better off or worse off? Justify.

(5) (8 pts) Are the owners of Capital better off or worse off? Justify.

(6) (10 pts) Are the Owners of Land better off or worse off? Justify.