Name________________________________ Student ID______________________

FINAL EXAMINATION
July 31th, 2013

Instruction: Read all instructions carefully before answer each question. If you have any question don't hesitate to ask, the worst thing that will happen is I'll say "I can't tell you that." Answer all questions in your blue book. When you have completed the test place your test form inside your blue book and hand in both.

TRUE FALSE UNCERTAIN: For questions 1-10 just answer with the quick assertion "true" or "false" and justify your answer. Do not spend too much time answering any of these questions: 1-2 sentences at most will suffice. (5 points each)

1. To extract monopoly profits from a foreign firm a home country should use a voluntary export restraint (VER) instead of tariffs.

2. In a two country, two good, Ricardian model under free trade, if the MPL in the industry you are *not specialized* in increases, without changing patterns of comparative advantage, real wages will not change.

3. Similar to the H-O and Richardian models, in a monopolistic competition model trade between two identical countries cannot be welfare enhancing.

4. A quota used to protect a domestic monopolist from international competition will result in higher deadweight losses than a tariff imposed on the same amount of imports.

5. The Feenstra Hanson model cannot explain the increase in wages paid to skilled labor in *both* Mexico and the US.

6. The U.S., a large exporter of cotton, experiences a terms of trade gain as a results of its subsidies of cotton production.

7. If there are no externalities associated with an infant industry, then there must be capital market imperfections in order to justify infant industry protection.

8. The optimal tariff increases as the foreign elasticity of supply increases.

9. Other things equal, welfare losses will be greater for a large country giving an X dollar export subsidy than for a small country giving an X dollar export subsidy.

10. In horizontal models of multinational activity, foreign direct investment flows between neighboring countries are particularly appealing, whereas vertical FDI is more beneficial when countries are farther away.

SHORT ANSWER QUESTIONS: For questions 11-14 read the questions completely before answering. When you are asked to "briefly explain" a few well written sentence is sufficient.

11. (10 points) Why might a foreign monopoly lead to small countries imposing positive optimal tariffs against imports? Briefly explain with the aid of a diagram.

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12. (12 points) Assume a country face **fixed world prices**. Suppose that there are two goods (airplanes and bicycles). In the **long run** there are two factors of production: labor (L) and capital (K). Suppose that the Home country has an influx of new labor through migration, which increases total labor force, $\bar{L}$.

    a. As a result of migration what will happen to wages and rental rates? (4 points)
    b. What will happen to the amount of labor utilized in both industries L_A and L_B, what about capital in both industries K_A and K_B? You may use a diagram, but it is not required. (4 points)
    c. What will happen to the production of airplanes and bicycles in the Home country? Graph the PPF before and after the change in labor and illustrate the change in production. (4 points)

13. (13 points) Consider a model of monopolistic competition and trade in differentiated goods. Suppose however that each firm faces a demand function given by,
$$q(P) = \frac{S}{N} * \left(\frac{P}{\bar{P}}\right)^{-2},$$
where $\bar{P}$is the average price in the industry. Each firm has a fixed cost of production equal to F and a constant marginal cost c, therefore total cost is given by $TC(q) = c * q + F$. This demand and cost relationship yields an optimal pricing rule of $P = 2c$.

    a. Graph average cost and price as functions of the number of firms, label average cost CC an price PP. Label the long run equilibrium number of firms as N^E. (*HINT: Impose symmetry to express average cost as a function on N.*) (4 points)
    b. Now consider opening to trade, which we think of as doubling S and N. What happens to the number of domestic firms in the short run? Is there any difference in the long run? (*HINT: Solve for the equilibrium number if firms by setting price equal to average cost*)(5 points)
    c. Briefly explain how this long run trade equilibrium differs from the one discussed in class. What are the gains from trade in this example? (4 points)

14. (15 points) Assume the home country satisfies assumptions for the small country case, and that world markets are perfectly competitive and that the autarky price P^A is above the world price P^w.

    a. Consider a quota, restricting imports to a value of M^1 which is less than import demand under world prices P^w. Assume that the government is able to auction off the quotas and extract quota rents.
        i. With the help of a diagram, describe the change in consumer surplus, producer surplus and government revenue. (3 points)
        ii. What welfare losses, if any, does this quota produce? Describe losses in terms of consumption production deadweight losses. (3 points)
        iii. Is the change in welfare equivalent to a tariff t^1 such that import demand equals M^1 ? (3 points)

    b. Consider instead voluntary export restraint, restricting imports to a value of M^1 which is less than import demand under world prices P^w.
        i. With the help of a diagram, describe the change in consumer surplus, producer surplus and government revenue. (3 points)
        ii. Compare welfare under both (a) and (b), given that a country wants to limit imports to a value of M^1, while minimizing welfare losses, which policy is better? (3 points)