

Hints for Economics 452 Problem Set Three

Work on each question as we complete that portion of chapter 9 (after practicing on corresponding exercise) so do not put it all off until just before due. Do a rough draft first, then copy more neatly to version you turn in. Write your solutions neatly on a printout of the questions and staple pages together before turning in your problem set.

1&2. See Example 9.1 Import Demand (slides 7-8) and Example 9.2 Export Supply and World Equilibrium (slides 16-20). 1a&2a. Remember to start by rearranging demand and supply to be in terms of quantity demanded and quantity supplied. Check that the price intercepts of import demand and export supply match Home and Foreign's autarky prices (1c and 2c). As a rule of thumb, Home autarky price (1c) should turn out to be halfway between the price intercepts of Home demand and supply, and similarly for foreign's autarky price (2c). World free trade price (2d) should turn out to be halfway in between Home and Foreign's autarky prices (1c and 2c).

Wait to draw Home import demand and Foreign export supply in 1b until finish 2e. Pick vertical scale to span from Foreign autarky price to Home autarky price, and horizontal scale so that the value where $M=X^*$ is about half way (or $2/3$) out. Connect autarky ($M=0$ at P^A) and free trade ($M=X^*$ at P^W) to graph Home import demand, and connect ($X^*=0$ at P^{A*}) and ($M=X^*$ at P^W) to graph Foreign export supply. Be sure to label that free trade point with dashed lines indicating the free trade price (2d) and volume of trade (2e). For now, the world graph in 1b should look like slide 20; after Home tariff-ridden import demand is added from 3b, the world graph should look like slide 37.

3. See Example 9.3 Tariff for a Large Country (slides 33-37). On the world graph, drop M' down by amount of tariff T so has vertical intercept of Home autarky price minus the tariff ($M'=0$ at P^A-T), and goes through where $M'=X^*$ at Foreign tariff-ridden price, and add tariff onto that to get Home's tariff-ridden price $P^T=P^{T*}+T$ (3c1). As a rule of thumb, Home's tariff-ridden price should wind up being the free trade price plus half of the tariff, and Foreign tariff-ridden price should be the free trade price minus half of the tariff. For volume of trade (3c3), sufficient to calculate Home's imports with the tariff (do not have to calculate Foreign's exports with the tariff). Make sure everything matches the "rules of thumb" <http://econweb.tamu.edu/aglass/econ452/Tariff%20problems.pdf> before start doing the welfare calculations in 4.

4. See Example 9.4 Welfare Effects of a Tariff (slides 61-67). The Home graph you draw at the end should look like slide 67. Draw the general graph like on slide 57, but add the numbers you found for Home price with tariff, world free trade price, Foreign price with tariff (2d and 3c1) on vertical axis; and the quantities demanded and supplied with and without the tariff on the horizontal axis (#2f and #3c2). Use labels **abcde** to denote where each welfare effect appears on the graph, as well as calculating them. Follow the example closely by including the general equations, as well as plugging the numbers in and finding the resulting number.