

Place your name on the back of this sheet of paper and nowhere else. Staple your answers on the front of this sheet of paper. Failure to follow these directions will cost you 10 points. If you use double-sided printing or write on the back of scrap paper, I will give you one additional point.

1) (25 points) Draw the supply/demand diagram for a product which a small country imports. Show the world price. Draw the effects of an import tariff which still allows trade. Explain why the line(s) moved as drawn. Find the consumer surplus, producer surplus, tariff revenue, and overall utility for both free trade and with the tariff. Prove the country is worse off with the tariff.

2) (30 points) Draw the supply/demand diagram for a product which a large country exports. Show the world price. Draw the effects of an export tariff which still allows trade. Explain why the line(s) moved as drawn. Find the consumer surplus, producer surplus, tariff revenue, and overall utility for both free trade and with the tariff. Determine whether your diagram has the country is better off with the tariff or without it. Explain your logic.

3) (15 points each) Since both of you have had enough mathematics, I want you to prove the following statements using appropriate mathematics. I also want you to give me the economic interpretation of the statement and tell me why it makes sense.

A) If  $a_i t_i > t$ , then  $g < 0$ .

B) If  $t$  increases then  $g$  increases.

C) If  $t_i > t$ , then  $g < t$ .