Problem set 7, due Tuesday 12/16/14

1. Comparative advantage. Jack and Kate are stranded on an island. Jack can find 5 mangoes per day or kill 1 boar per day; Kate can find 10 mangoes per day, or kill 1 boar per day, as shown by the table on the left and below:

units per day				opportunity cost			
	mangoes	boar			mangoes		boar
Jack	5	1			_____ boar		_____ mangoes
Kate	10	1			_____ boar		_____ mangoes

a) Fill in the blanks on the opportunity cost table, to show how many of each good each person must give up to get one of the other good, without trade.

b) a comparative advantage in _____ (boar, mangoes, both, neither)

c) _____ has a comparative advantage in wine. _____ has a comparative advantage in swords.

d) If _____ (Jack, Kate) gives _____ (Jack, Kate) a boar for any number of mangoes between _____ and _____, both can potentially be made better off.

2. Comparative advantage again. Andre and Arnold can divide their time between making bread and making wine. The units per day table below shows how many of each good (bread, wine) Andre and Arnold can produce per day.

units per day				opportunity cost			
	bread	wine			bread		wine
Andre	8	4		Andre	_____ wines		_____ breads
Arnold	6	2		Arnold	_____ wines		_____ breads

a) Fill in the blanks on the opportunity cost table, to show how many of each good each person must give up to get one of the other good, without trade.

b) Andre has a comparative advantage in making _____ (boar, mangoes, both, neither)

c) If _____ (Andre, Arnold) gives _____ (Andre, Arnold) a boar for any number of mangoes between _____ and _____, then both can potentially be made better off.

3. Supply and demand, with trade. Suppose that domestic demand and supply of bananas in Stansylvania can be represented by the following marginal benefit and marginal cost functions: $MB = 100 - q$, and $MC = 20 + q$ (where q gives the quantity of bananas consumed or produced). Stansylvania is such a small country that it can have no measurable effect on the worldwide market price of bananas, which is 30.

a) Find Stansylvania's equilibrium quantity, price, consumer surplus, producer surplus, and total economic surplus if its government allows no imports at all.

$q =$ _____ $\qquad p =$ _____ $\qquad CS =$ _____ $\qquad PS =$ _____ $\qquad TES =$ _____

b) Find Stansylvania's equilibrium quantity demanded, quantity supplied, quantity imported, consumer surplus, producer surplus, and total economic surplus if its government allows bananas to be imported without restriction.

$q_d =$ _____ $\quad q_s =$ _____ $\quad q_i =$ _____ $\quad CS =$ _____ $\quad PS =$ _____ $\quad TES =$ _____

c) Find Stansylvania's equilibrium quantity demanded, quantity supplied, quantity imported, consumer surplus, producer surplus, government revenue, and total economic surplus (including government revenue) if its government imposes an import tariff of 20 per unit.

$q_d =$ _____ $q_s =$ _____ $q_i =$ _____ $CS =$ _____ $PS =$ _____ $GR =$ _____ $TES =$ _____

d) What is the deadweight loss of the tariff in part c? _____

e) On both graphs below, draw marginal benefit, marginal cost, and world price. On the first graph, use different shading to indicate consumer surplus and producer surplus. On the second graph, use different shading to indicate consumer surplus, producer surplus, government revenue, and deadweight loss.

p — no tariff

p — tariff of $20