Econ 100D: Principles of Economics NAME: _____

Problem set 6, due Monday 12/16/13

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

	Mangoes	boar
Jack	5	1
Kate	10	1

opportunity cost

	mangoes	Boar
Jack	_____ boar	_____ mangoes
Kate	_____ 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) Kate has a comparative advantage in _____ (boar, mangoes, both, neither)

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

2. Comparative advantage again. Andre and Terry 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 Terry can produce per day.

units per day

	Bread	wine
Andre	8	4
Terry	6	2

opportunity cost

	Bread	wine
Andre	_____ wines	_____ breads
Terry	_____ 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 the other good, without trade.

b) Andre has a comparative advantage in making _____ (wine, bread, both, neither)

c) If _____ (Andre, Terry) gives _____ (Andre, Terry) a bottle of wine for any number of bread loaves 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.

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

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.

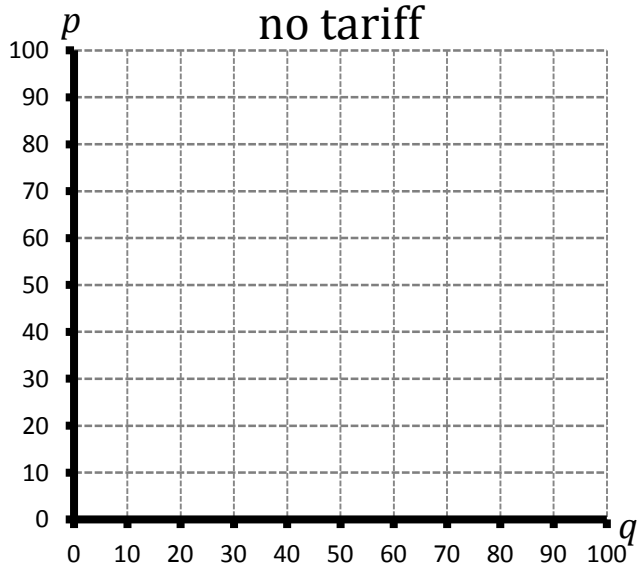
$q_d =$ _____ $q_s =$ _____ $q_i =$ _____ $CS =$ _____ $PS =$ _____ $TES =$ _____

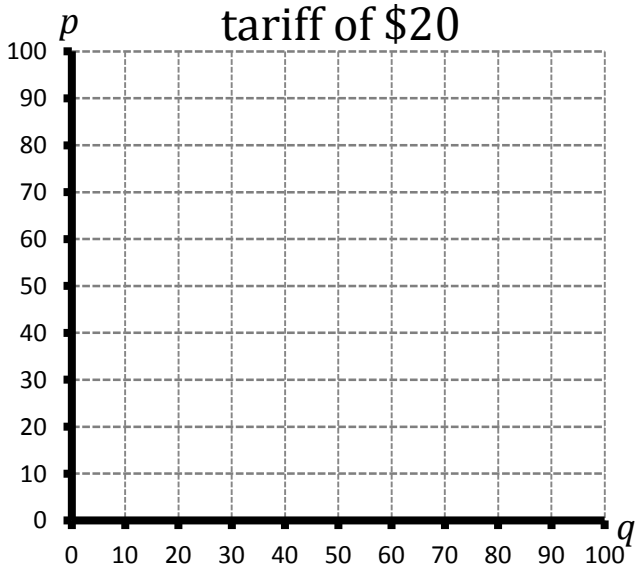
c) Find Stansylvania's equilibrium quantity demanded, quantity supplied, quantity imported, consumer surplus, producer surplus, government revenue, and total economic surplus (including government revenue) if its government imposes an import tariff of 20 per unit.

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

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.





4. Firm entry and exit. Suppose that every firm in a particular (perfectly competitive) industry has the cost function $C(y) = \frac{1}{20}y^2 + 80$, and thus the marginal cost function $MC(y) = \frac{1}{10}y$, where y is the quantity of output it produces.

a) If the market price of the good is 8, each firm will chose to produce $y =$_____ units of output.

b) In this case, each firm's revenue is $R =$_____, its cost is $C =$_____, and it's profit is $\pi =$_____

c) So, if the market price is 8, will firms want to enter or exit?

d) If the market price of the good is 2, each firm will chose to produce $y =$_____ units of output.

e) In this case, each firm's revenue is $R =$_____, its cost is $C =$_____, and it's profit is $\pi =$_____

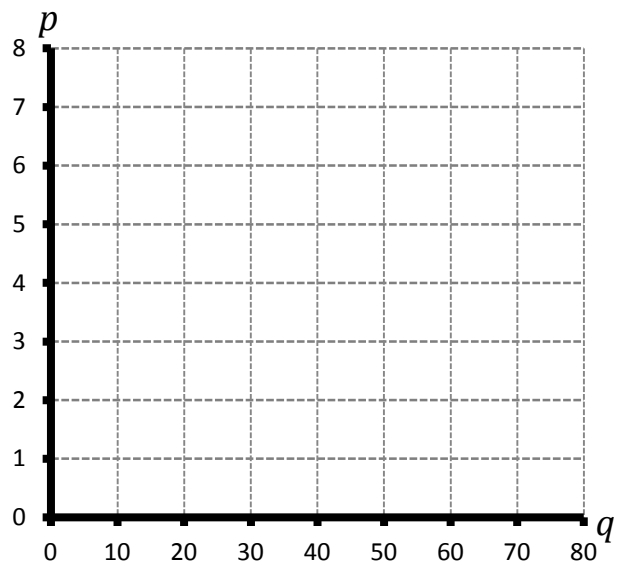
f) So, if the market price is 2, will firms want to enter or exit?

g) Find each firm's average cost function: $AC(y) =$_____

h) In the long run, when there has been enough time for all firms who want to enter or exit to do so, each firm produces $y^* =$_____ units of the good.

i) Therefore, the long run equilibrium price of the good is $p^* =$_____.

j) On the graph below, draw an the marginal cost curve and average cost curve of an individual firm, and the long run equilibrium price.



5. Explain the difference between frictional, structural, and cyclical unemployment. Discuss some different causes of structural unemployment.

6. What does the real GDP per capita statistic tell us about a country's standard of living? What does it leave out?

7. In what ways can government policy impact economic growth?