THIRD TEST. ECON 100B, SPRING 2015.   NAME: _____

Fill in the blanks, and answer in the spaces provided. Show your work.

1. Long run market equilibrium. (12 points) Suppose that every firm in a particular industry (which is perfectly competitive) has the cost function $C(q) = 5q + \frac{1}{20}q^2 + 500$, and thus the marginal cost function $MC(q) = 5 + \frac{1}{10}q$, where q is the quantity of output it produces. Market demand is given by the function $Q_d(p) = 3500 - 100p$. Let n be the number of firms.

a) Find the supply function of each firm, $q_s(p)$, and use this to find the market supply function, $Q_s(p) = n \cdot q_s(p)$.

For parts b-d, suppose that in the short run there are 10 firms in the industry.

b) The short run market equilibrium price is _____. At this price, each firm produces $q =$ _____ units, and all the firms together produce $Q =$ _____ units.

c) Each firm has revenue $R =$ _____, cost $C =$ _____, and profit $\pi =$ _____.

d) Do firms want to enter or exit? In a few words: why?

In parts e-g, we consider the long run equilibrium, in which firms do not want to enter or exit.

e) Find each firm's average cost function, $AC(q)$.

f) In the long run equilibrium, the price is $\tilde{p} =$ _____, and each firm will produce $\tilde{q} =$ _____ units of output.

g) Therefore, the number of firms in the long run equilibrium is $n^* =$ _____.

2. Supply and demand, with trade. (12 points) Suppose that domestic demand and supply of bananas in Stansylvania can be represented by the following marginal benefit and marginal cost functions: $MB = 70 - \frac{1}{10}q$, and $MC = 10 + \frac{1}{10}q$ (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 20.

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 = $ _____ $\qquad q_s = $ _____ $\qquad q_i = $ _____ $\qquad CS = $ _____ $\qquad PS = $ _____ $\qquad 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 10 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.

no tariff

tariff of 10¢
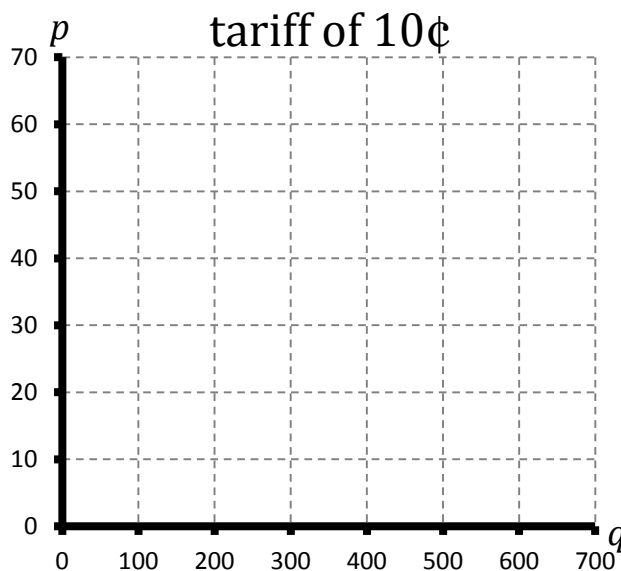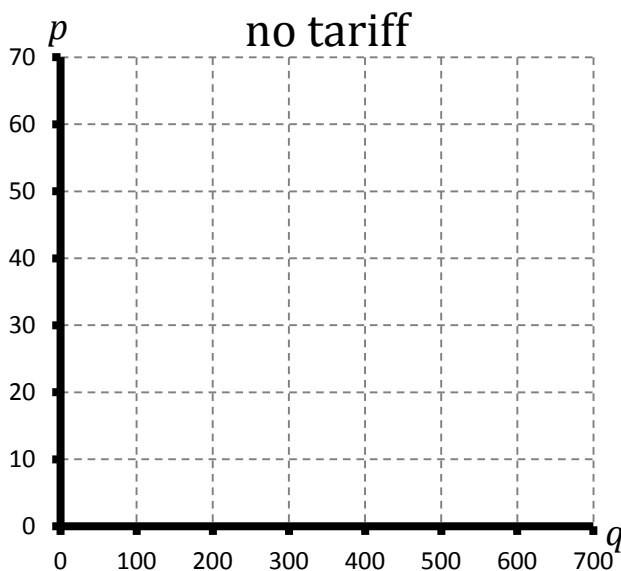
3. Comparative advantage. (5 points) There are two neighboring countries: Florin and Guilder. In a day, a Florinese worker can produce either 25 pitchers or 5 swords, and a Guilderian worker can produce either 6 pitchers or 2 swords, as shown by the table on the left and below:

units per day				opportunity cost	
	pitchers	swords		pitchers	swords
Florin	25	5	Florin	swords	pitchers
Guilder	6	2	Guilder	swords	pitchers

a) Complete the opportunity cost table, to show how many swords each country must give up to get an extra pitcher, and vice versa, without trade.

b) _____ has an absolute advantage in pitchers. _____ has an absolute advantage in swords.

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

d) If _____ gives _____ a sword for any number of pitchers between _____ and _____, then both countries can potentially be made better off.

4. Macroeconomics (4 points each)

a) How is "long run economic growth" defined? According to Krugman et al, what are the main factors that drive it, and what can governments do to encourage it?

b) Sketch the short run aggregate supply curve, labeling both axes. Carefully explain the direction of its slope (i.e. upward vs. downward).

c) Explain the way in which private banks create money.

d) Define expansionary fiscal policy. When might it be called for? What does it accomplish, and how? What is its most obvious drawback?