Answers to Problem set#1

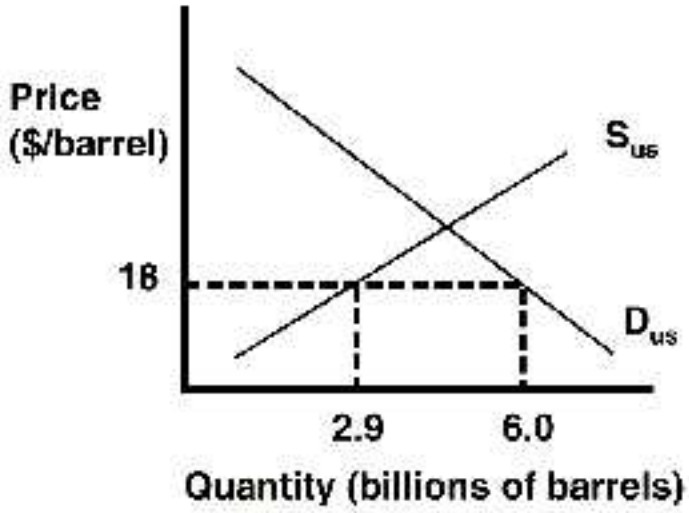
Econ335

2. Producer surplus is the net gain to producers from being able to sell a product through a market. It is the difference between the lowest price at which some producer is willing to supply each unit of the product and the actual market price that is paid, summed over all units that are produced and sold. The lowest price at which someone is willing to supply the unit just covers the extra (marginal) cost of producing that unit. To measure producer surplus for a product using real world data, three major pieces of information are needed. First, the market price. Second, the quantity supplied. Third, some information about the slope (or shape) of the supply curve. How would quantity supplied change if the market price decreased? Or, what are the extra costs of producing each unit up to the actual quantity supplied? Producer surplus could then be measured as the area below the market price line and above the supply curve.

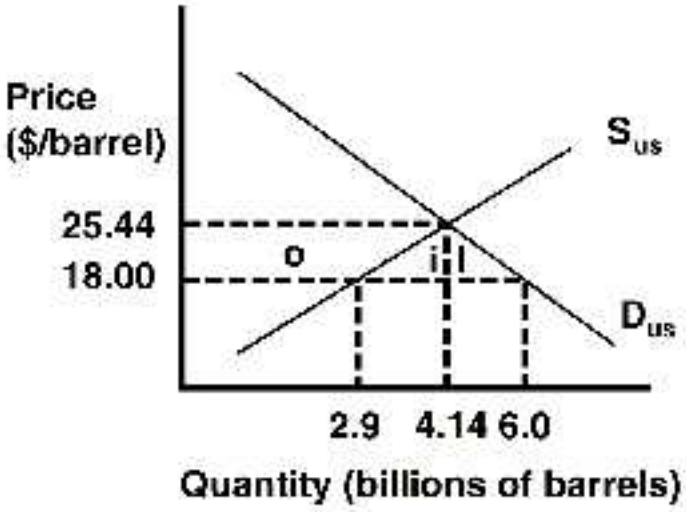
4. The country's demand for imports is the amount by which the country's domestic quantity demanded exceeds the country's domestic quantity supplied. The demand-for-imports curve is derived by finding the difference between domestic quantity demanded and domestic quantity supplied, for each possible market price for which quantity demanded exceeds quantity supplied. The demand-for-imports curve shows the quantity that the country would want to import for each possible international market price.

6. If there were no exports of scrap iron and steel, the domestic market would clear at the price at which domestic quantity demanded equals domestic quantity supplied. But the United States does export scrap iron and steel. The extra demand from foreign buyers increases the market price of scrap iron and steel. Domestic users of scrap iron and steel pay a higher price than they would if there were no exports. Thus, some support a prohibition on these exports, in order to lower the market price of the scrap that they buy.

8. a. With free trade at $18 per barrel:
Domestic production QS: 18 = 0.6 + 6QS, or Qs = 2.9 billion barrels.
Domestic consumption QD: 18 = 42 - 4QD, or QD = 6 billion barrels.



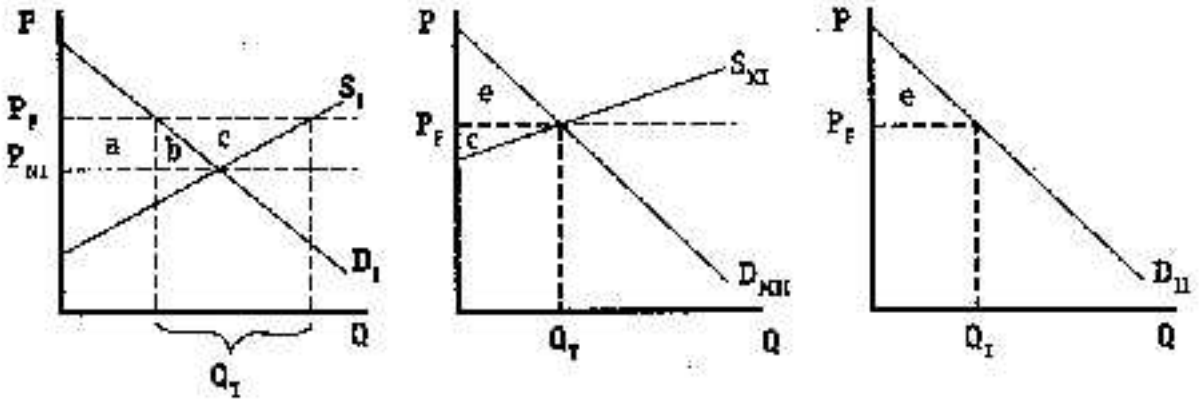
b. With no imports, domestic quantity supplied must equal domestic quantity demanded (both equal to QN) at the domestic equilibrium price P:
42 - 4QN = 0.6 + 6QN, or QN = 4.14 billion barrels produced and consumed.
Using one of the equations, we can calculate that the domestic price would be $25.44 per barrel.



c. Domestic producers of oil would gain, receiving an increase of producer surplus shown as area o in the graph. Domestic consumers of oil would lose, experiencing a loss of consumer surplus shown as area o + i + l in the graph.

10. The supply curve SUS shifts down (or to the right). The U.S. demand-for-imports curve Dm shifts to the left (or down). The equilibrium international price decreases below 1,000--it is shown by the intersection of the new U.S. Dm curve and the original Sx curve.

12. a. In the graphs below, the free trade equilibrium price is PF, the price at which the quantity of exports supplied by Country I equals the quantity of imports demanded by Country II. (The quantity-of-imports demanded curve for country II is the same as the country's regular demand curve.) This world price is above the no-trade price in country I. The quantity traded with free trade is QT.



b. In Country I producer surplus increases by area a + b + c, and consumer surplus falls by area a + b. The net national gain from free trade is area c. In country II consumer surplus increases by area e and this is also the net national gain from trade. Because there is no domestic production in Country II with or without trade, there is no change in producer surplus.