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HW#8 Due March 1, 2022

9. At Fenway Park, home of the Boston Red Sox, seating is limited to about 38,000. Hence, the number of tickets issued is fixed at that figure. Seeing a golden opportunity to raise revenue, the City of Boston levies a per ticket tax of $5 to be paid by the ticket buyer. Boston sports fans, a famously civic-minded lot, dutifully send in the $5 per ticket. Draw a well-labeled graph showing the impact of the tax. On whom does the tax burden fall—the team's owners, the fans, or both? Why?
10. A market is described by the following supply and demand curves:

$$Q^S = 2P$$
$$Q^D = 300 - P$$

a. Solve for the equilibrium price and quantity.

b. If the government imposes a price ceiling of $90, does a shortage or surplus (or neither) develop? What are the price, quantity supplied, quantity demanded, and size of the shortage or surplus?

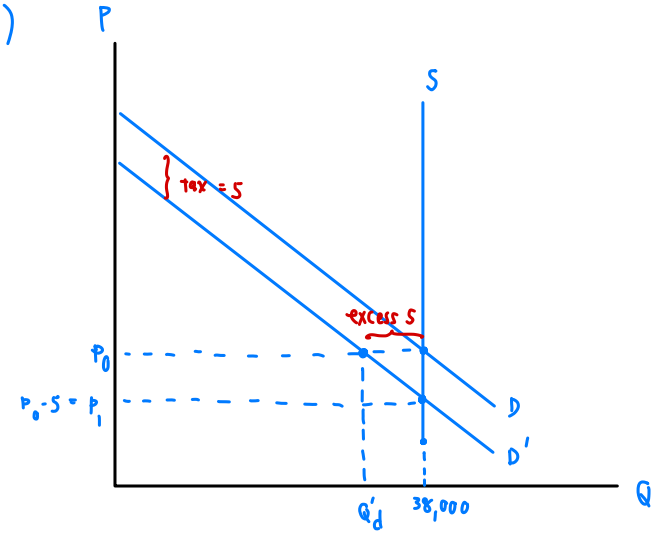
c. If the government imposes a price floor of $90, does a shortage or surplus (or neither) develop? What are the price, quantity supplied, quantity demanded, and size of the shortage or surplus?

d. Instead of a price control, the government levies a tax on producers of $30. As a result, the new supply curve is:

$$Q^S = 2(P - 30).$$

Does a shortage or surplus (or neither) develop? What are the price, quantity supplied, quantity demanded, and size of the shortage or surplus?

9.)



The buyer levied 5$ per ticket causing D shift to D'. At same price level P_0, there is an excess supply, so the price tends to fall as long as the excess supply exists. The new equilibrium price at P_1.

The seller could get the P_0 before the tax. The sellers can now get only $P_1 = P_0 - 5$ after the tax. For the buyer, the price they has to pay is P_0 before the tax. The total amount paid by buyers (after the tax has been levied) is $P_1 + 5 = P_0 - 5 + 5 = P_0$

The tax burden falls to the seller only because the seller gets the price 5$ lower while the buyers pays the same price.

10) (a) At equilibrium, $Q_s = Q_d$

$$2P = 300 - P$$

$$P_E = 100$$

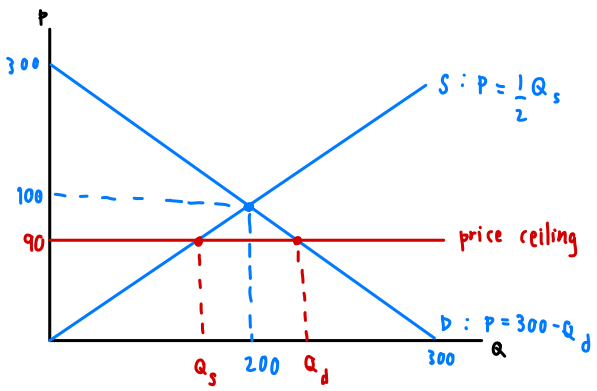
$$Q = 2(P_E)$$

$$Q = 2(100)$$

$$Q_E = 200$$

∴ Equilibrium point = (100, 200) #

(b)

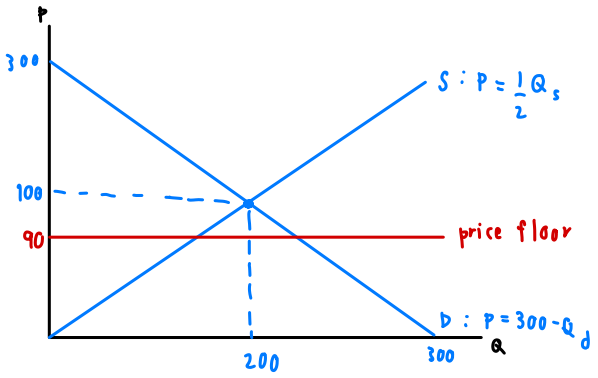


At price = 90, $Q_S = 2(90) = 180$

$Q_d = 300 - 90 = 210$

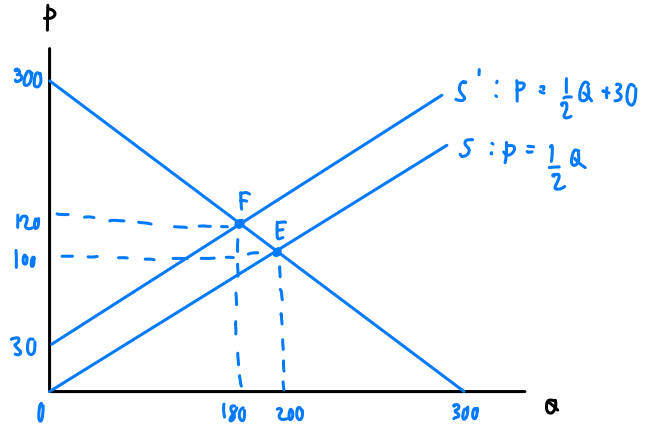
∴ there is an excess demand (shortage) = $Q_d - Q_s = 210 - 180 = 30$ units #

(c)



If the government sets price floor at 90 $ which is lower than the equilibrium price, it creates no effect because the minimum price traded in the market lowers than the price that is normally traded

(d)



$2(P-30) = 300-P$

$2P - 60 = 300 - P$

$3P = 360$

$P = 120 \rightarrow Q = 180$

The new equilibrium is at F (120, 180) #

There is an excess demand $= Q_d - Q_s = 200 - 140 = 60$, so the price tends to increase until there is no excess demand (at F)