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HW#6 Due March 4, 2021

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?

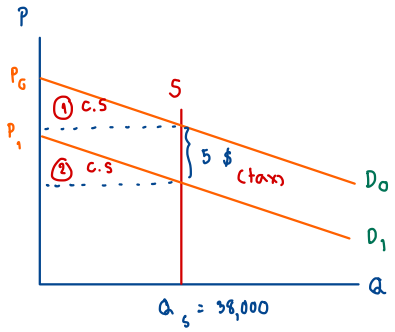
   c. If the government imposes a price floor of $90, does a shortage or surplus (or neither) develop? What are the price, quantity supplied, quantity demanded, and size of the shortage or surplus?

   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.)



Demand curve shift down because they have to pay more 5 $ tax per a ticket

In the case, supply curve is perfectly inelastic, therefore the entire tax burden is on the supplier because the supplier because the supplier have to reduce the price without changing Q_S so we can sell the same amount (38,000)

10.) $Q_S = 2P \rightarrow P = \frac{Q_S}{2}$

$Q_D = 300 - P \quad P = 300 - Q_D$

a.) eqm price and quantity

find P

$Q_S = Q_D$

$2P = 300 - P$

$3P = 300$

$P = 100$

find Q

$Q_S = 2P$

$Q_S = 2(100)$

$Q_S = 200$

or $Q_D = 300 - P$

$Q_D = 300 - 100$

$Q_D = 200$

b.) Price ceiling of \$ 90 (P_{max}) is below eqm price

find Q_D

$Q_d = 300 - P$

$Q_d = 300 - 90$

$Q_d = 210$

find Q_S

$Q_S = 2P$

$Q_S = 2(90)$

$Q_S = 180$

$\therefore Q_d > Q_S$ (excess demand)

$\therefore$ shortage quantity suppy $210 - 180 = 30$ units

C.) Price floor is 90 \$ (P_{min}) when eqm price is 100 \$ (P_0), so the price floor is not binding in this case. If we set price floor below eqm price, then the market will continue its mechanism, at price = 100 neither surplus or shortage would develop

D.) government levies tax on producer 30 \$

$Q_S = 2(P - 30)$, $Q_D = 300 - P$

at Enew $Q_S = Q_D$

$2P - 60 = 300 - P$

$3P = 360$

$P = 120$

$Q_D = 300 - 120$

$Q_D = 180$

$Q_S = 180$