HW#6 Due October 6, 2020

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?

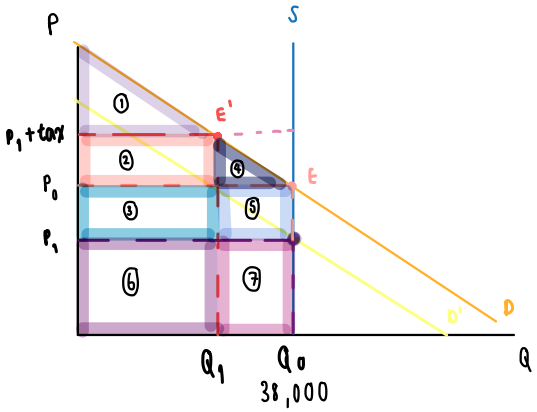
c. If the government imposes a price floor of $90, does a shortage or surplus (or neither) develop? What are the price, quantity supplied, quantity demanded, and size of the shortage or surplus?

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.



	Before	After	Change
CS	① + ② + ④	①	-(② + ④)
PS	③ + ⑤ + ⑥ + ⑦	⑥	-(③ + ⑤ + ⑦)

* Government total revenue : ② + ⑤

DWL : ④ + ⑤ + ⑦

Initially, the tickets price was at P_0, while the numbers of the seat were fixed at 38,000 seats. After the City of Boston levies collect $ 5 dollar as a tax on buyer. The Demand point was decreasing from D to D' because most of the people didn't want to pay P_0 with additional $ 5 tax.

The D' point create new intersect with s which was (Q_0 , P_1). P_1 was the new lower price that sellers was going to received from buyers. However, the buyer needed to pay at P_1 + tax. for taxation, but staying in Q_0 cause the excess demand. So we had to shift quantity to Q_1. The new equilibrium was E' (Q_1, P_1 + tax).

Basically both of buyers and sellers had to share the tax barden. The seller paid for $(P_0 - P_1)$, while the buyer paid for $[(P_1 + tax) - P_0]$

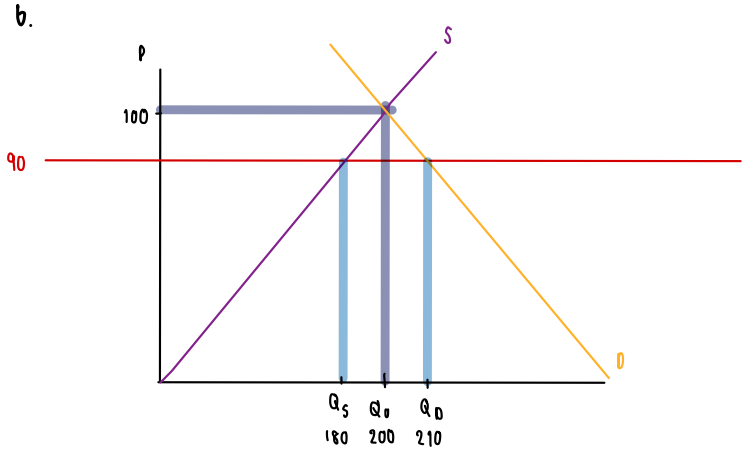
10. a. Egilibrium price → $Q^S = Q^D$ Quantity

$2P = 300 - P$ $Q = 200$

$3P = 300$

$P = \$100$

b.



$Q_D = 300 - 90$

$= 210$

$Q_S = 2(90)$

$= 180$

Price = $90

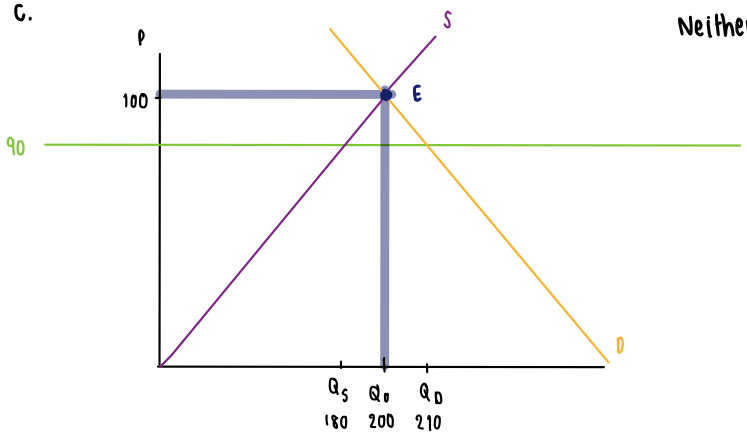
size of surplus

$= 210 - 180$

$= 30$

* Demand Exceed Surplus develop

c.



Neither develop

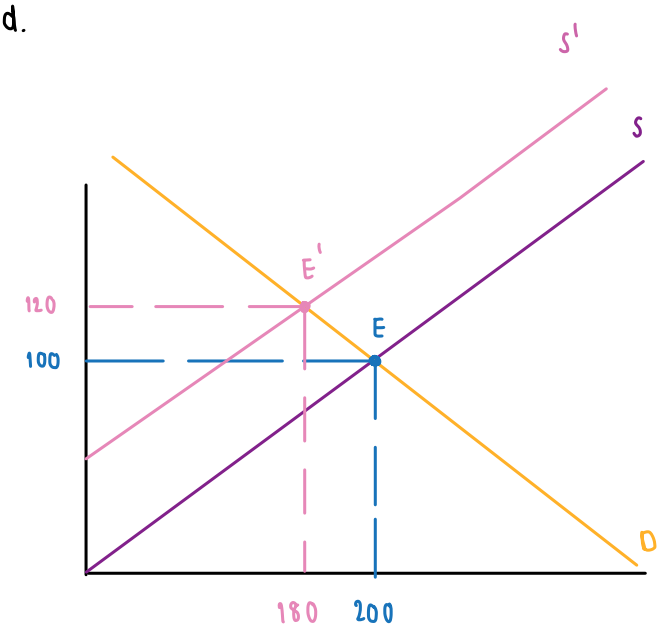
price = 100

Q_S = 200

Q_P = 200

Size of surplus = 0

d.



$Q^S = 2P - 60$

$E = Q^S = Q^D$

$2P - 60 = 300 - P$

$3P = 360$

$P = 120$

E'

$Q^D = 300 - 120$

$= 180$

$Q^S = 2(120 - 30)$

$= 2(90)$

$= 180$