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?

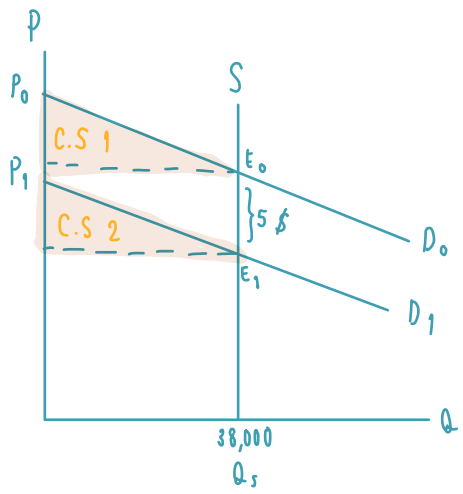
c. If the government imposes a price floor of $90, does a shortage or surplus (or neither) develop? What are the price, quantity supplied, quantity demanded, and size of the shortage or surplus?

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 ticket
- in this case, the supplier is affect by tax because they have to reduce the price to get the same Q_S as before the graph shift down since supply curve is perfectly in elastic

10. (a) P : $2P = 300 - P$

$P = 100$

Q : $Q_s = 2P$ $\quad Q_D = 300 - P$

$Q_s = 200$ $\quad = 260$

$\therefore$ Equil^m = (100, 200)

(b) price ceiling of 90 is below equil^m price

$Q_D = 300 - 90$

$= 210$

$\therefore \quad Q_D > Q_s$ (excess demand)

$Q_s = 2(90)$

$= 180$

so shortage in Q_s $210 - 180 = 30$ units

(c) Price floor is 90 $ and equilibrium is at $P = 100$, so neither surplus or shortage would develop because the aim of Price floor is to increase market price. if we set the price floor below equil^m, the market will contitue its machanism (to equil^m point)

(d) $Q_s = 2(P - 30)$, $Q_D = 300 - P$

$\Rightarrow \quad 2P - 60 = 300 - P$

$3P = 360$

$P = 120$

$Q_D = 300 - 120$

$= 180$

new equil^m = (180, 120)

$\therefore$ neither surplus nor shortage will develop.