HW#8 Due March 1, 2022

tax to buyer

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.

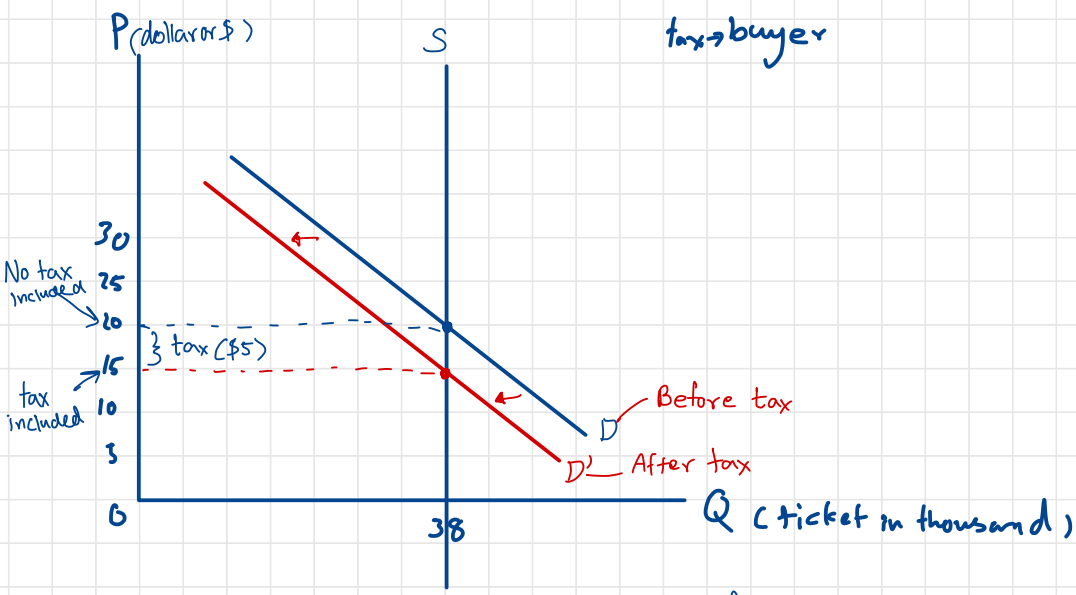
b. If the government imposes a price ceiling of $90, does a shortage or surplus (or neither) develop? What are the price, quantity supplied, quantity demanded, and size of the shortage or surplus?

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?



teams owners will paid entirely tax burden because the supply is vertical or perfectly inelastic. ($\eta_S = 0$)

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

$P = \frac{1}{2} Q^S$

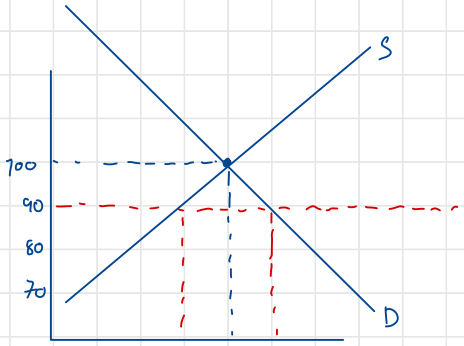
$P = 300 - Q_D$

a) $2P = 300 - P$

$P = 100 \quad Q = 200$

Equilibrium price = 100

Equilibrium quantity = 200



b) cal Q_s ceiling $90

$Q_s = 2P$

$Q_s = 180$ $\quad Q_s < Q_D$ = shortage

Q_D

$Q_D = 300 - P$

$= 300 - 90$

$Q_D = 210$

Quantity demand is higer than quantity supply which means it is insufficient in product for demand of the consumer.

c) If the floor price is less than equilibrium use E

$Q_D = 200$ $Q_S = 200$

neither shortage or surplus since Q_D and Q_S are equal

d)

$Q_S = 2P - 60$

$300 - P = 2P - 60$

$360 = 3P$

$P = 120$

$Q^S = 180$

$Q^D = 180$

There is no shortage or surplus since

$Q_S = Q_D$

$180 \quad 180$