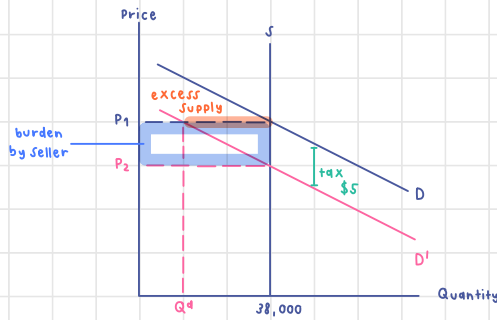


9. At Fenway Park, home of the Boston Red Sox, seating is limited to about 38,000. Hence, the number of tickets issued is fixed at that figure. Seeing a golden opportunity to raise revenue, the City of Boston levies a per ticket tax of \$5 to be paid by the ticket buyer. Boston sports fans, a famously 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?

9.



From the graph, the original price of ticket is P_1 and quantity of ticket is 38,000.

When the buyer levied \$5 per ticket, the demand decrease from D to D' and cause excess supply = $38,000 - Q^d > 0$. The price to drop from P_1 to P_2 to get rid of excess supply = 0 and ticket quantity remain the same.

At first, the seller could get price at P_0 . After collect tax, the seller can get only P_2 ($P_1 - 5$). The buyer still pay at P_1 , the same price before the tax was collect.

Therefore, the tax burden falls to the seller because the price got down \$5 to pay tax.

∴ this is perfectly inelastic

10. A market is described by the following supply and demand curves:

$$Q^S = 2P$$

$$Q^D = 300 - P$$

- Solve for the equilibrium price and quantity.
- 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?
- 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?
- 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?

10. a) equilibrium = $Q^S = Q^D$

$$2P = 300 - P$$

$$3P = 300/3$$

$$P_E = \$100$$

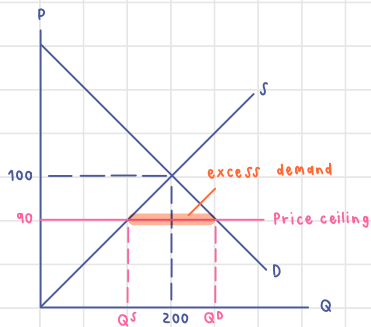
for $Q_E = 2P$

$$= 2(100)$$

$$= 200 \text{ unit}$$

∴ equilibrium point (100, 200)

b)



Since the government set price ceiling below the equilibrium price, there will be a shortage.

At price = \$90

$$210 - 180 = 30$$

$$Q^S = 2(P)$$

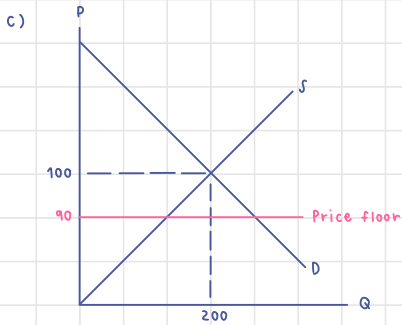
∴ At price ceiling there is

$$= 2(90) = 180$$

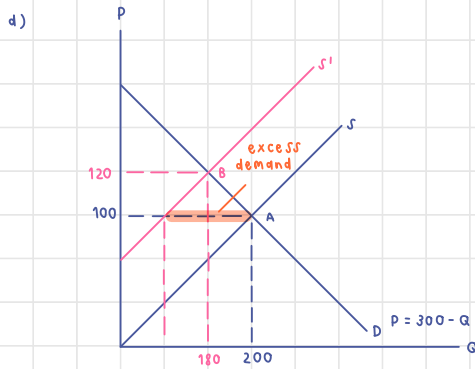
excess demand.

$$Q^D = 300 - P$$

$$= 300 - 90 = 210$$



There is not shortage because the government set price floor at \$ 90
 which is lower than the equilibrium price = \$ 100



$$\text{New } Q^S = 2(P - 30)$$

$$\text{Point F : } 2(P - 30) = 300 - P$$

$$2P - 60 = 300 - P$$

$$3P = 360$$

$$P = 120$$

$$Q = 300 - 120$$

$$= 180$$

- new equilibrium (point B) is at (120, 180)

- At old price, there is excess demand because

$$Q^S = 2(100 - 30) = 140 \text{ while } Q^d = 300 - 100 = 200$$

$$Q^d - Q^S = 200 - 140 = 60$$

- So price has to increase until there is

no excess demand.