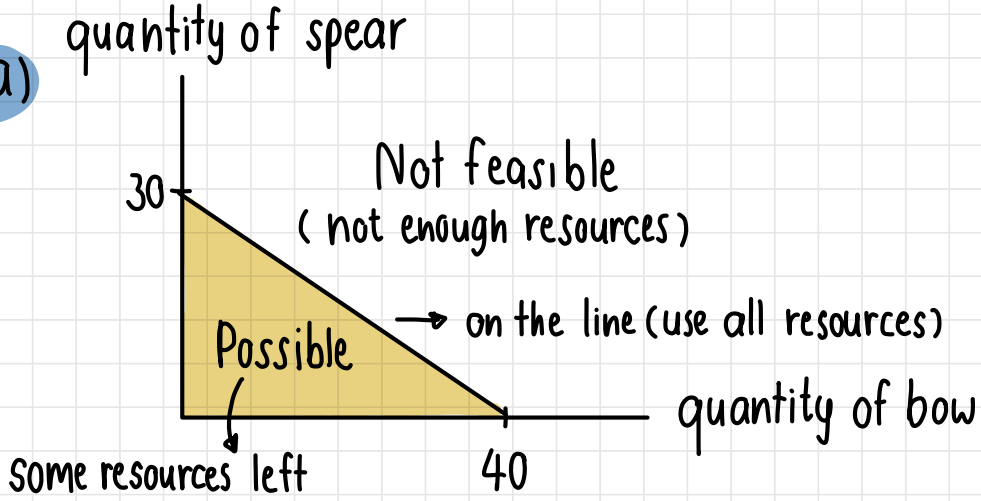
1.a)



Woods 120 units

- It takes 4 units of wood to produce 1 spare ; $\frac{120}{4} = 30$
- It takes 3 units of wood to produce 1 bow ; $\frac{120}{3} = 40$ in total

1.b)

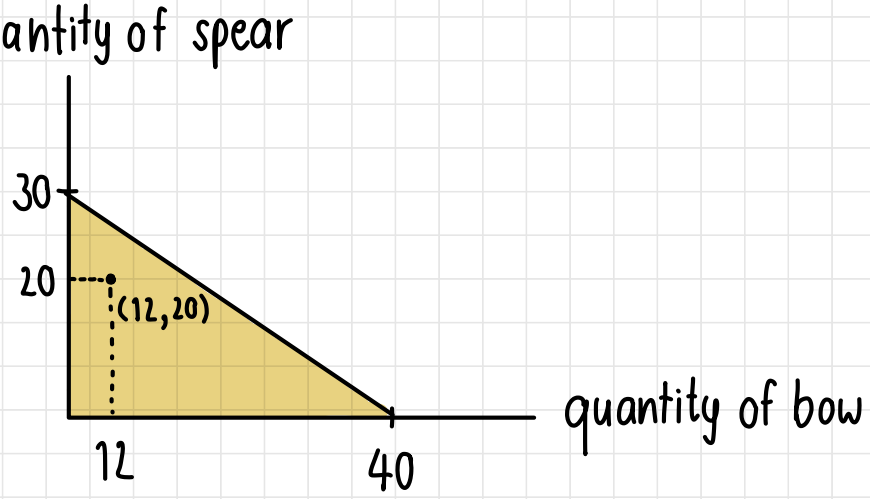
To have 30 more spears → you have to give up 40 bows

To have 1 more spears → you have to give up $\frac{40 \times 1}{30}$ bows

$= \frac{4}{3} = 1.33$ bows

- The meaning is you're satisfied 1.33 bows to get more 1 spear

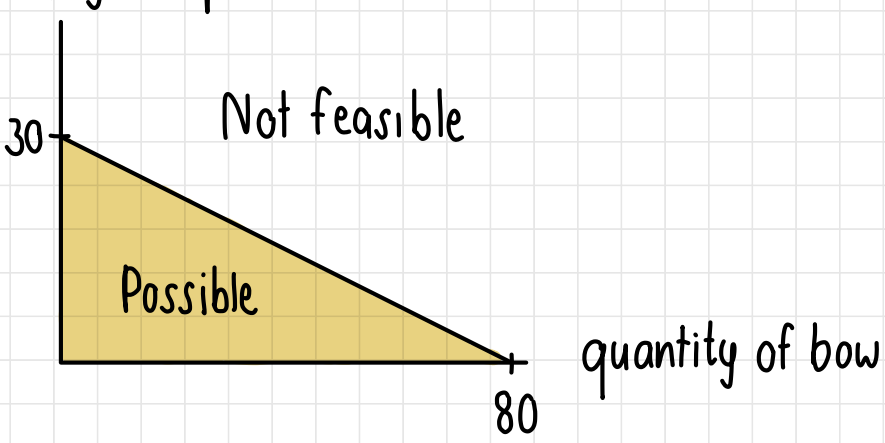
1.C)



Ans. It is possible for this civilization to produce 20 spears and 12 bows, but this option is inefficient because there are some resources left in this situation.

1.d)

From a new method of making bows, the changes in PPC;



Woods 120 units

- It takes 4 units of wood to produce 1 spare ; $\frac{120}{4} = 30$
- It takes 1.5 units of wood to produce 1 bow ; $\frac{120}{1.5} = 80$ in total

From a new method of making bows, the changes in opp. cost ;

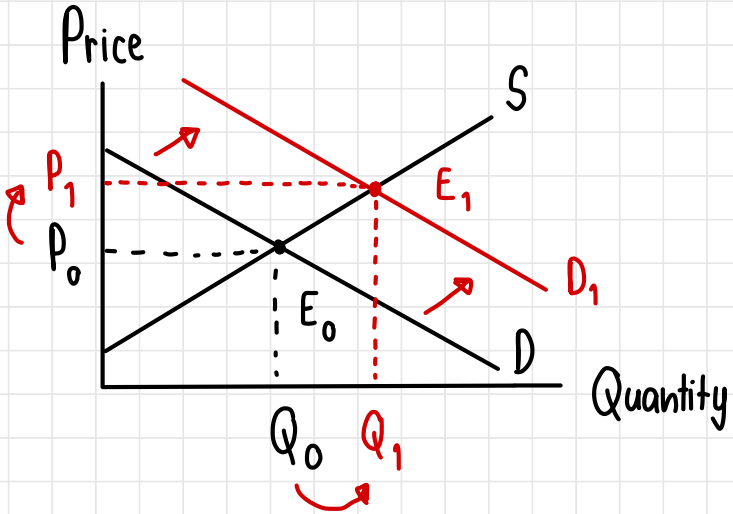
To have 30 more spears → you have to give up 80 bows

To have 1 more spears → you have to give up $\frac{80 \times 1}{30}$ bows

$= \frac{8}{3} = 2.67$ bows

- The meaning is you're satisfied 2.67 bows to get more 1 spear

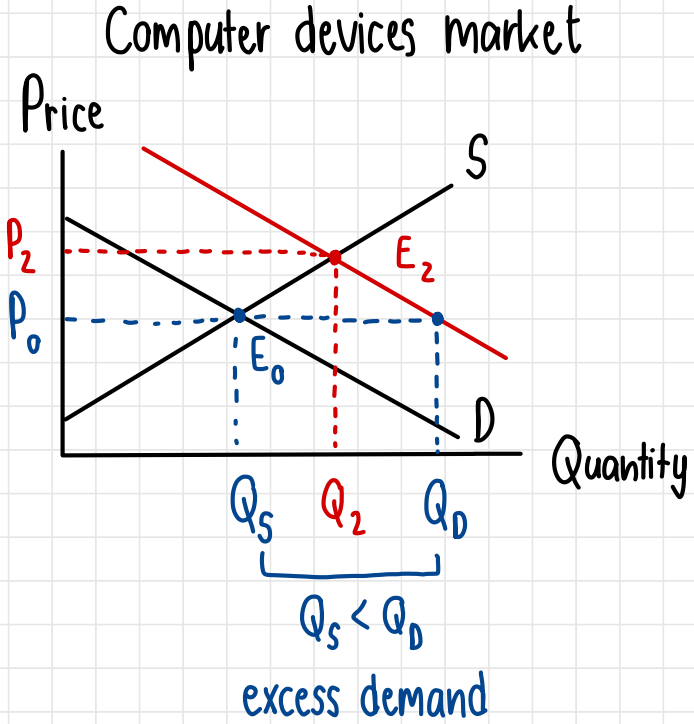
2.a) Computer devices market



Ans. During the covid-19 pandamic, many people have to work or study from home that makes computer devices are the important things for them. Therefore, the demand for computer devices increases at every price of computer devices. As a result, the demand curve is shifted to the right, especially the new equilibrium price and quantity is also higher.

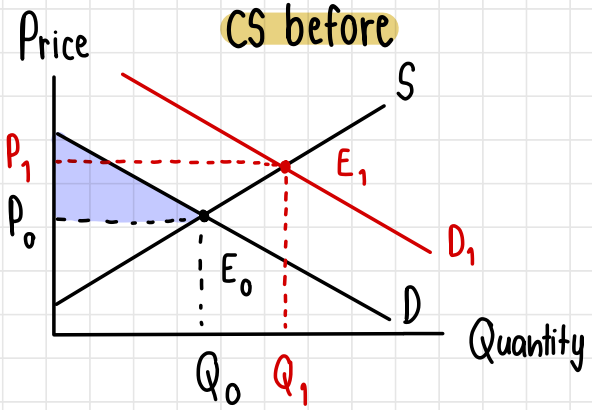
*other factors remain the same

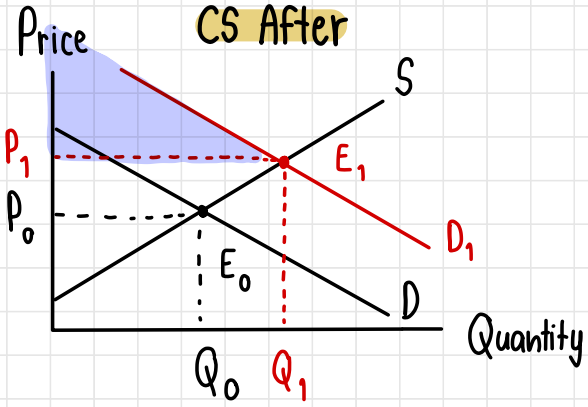
2.b)

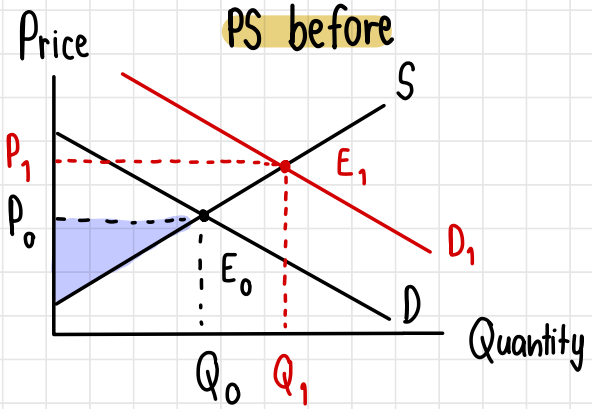


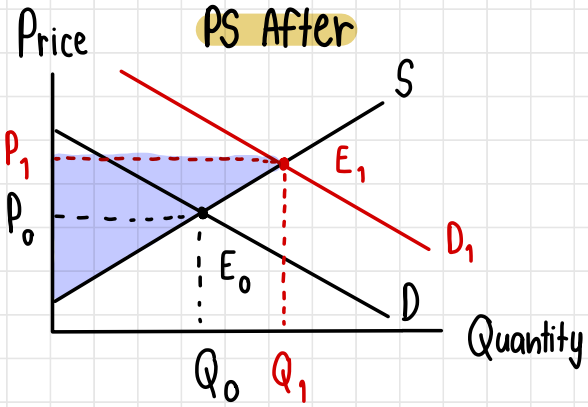
Ans. According to the graph, the quantity demanded exceeded the original equilibrium quantity at the original equilibrium price. At P_0, the quantity of supply is lower than the quantity of demand, so it is excess demand. For equilibrium, there is no the new market equilibrium at P_0. When there is excess of demand, the seller increases the price from P_0 to P_2 that make quantity supply also increases to Q_2, especially form the new equilibrium at E_2

2.C)



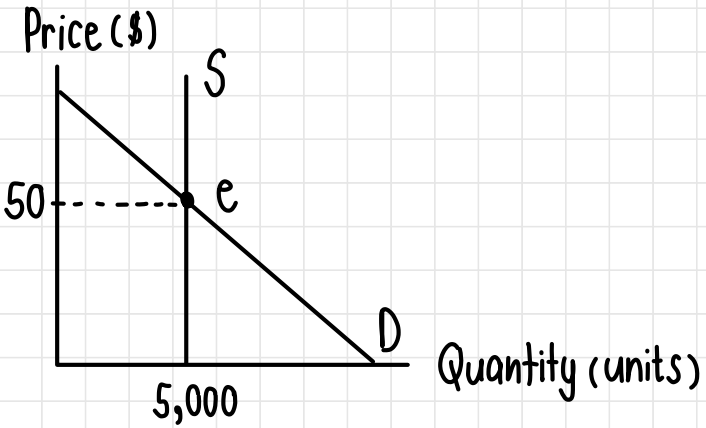




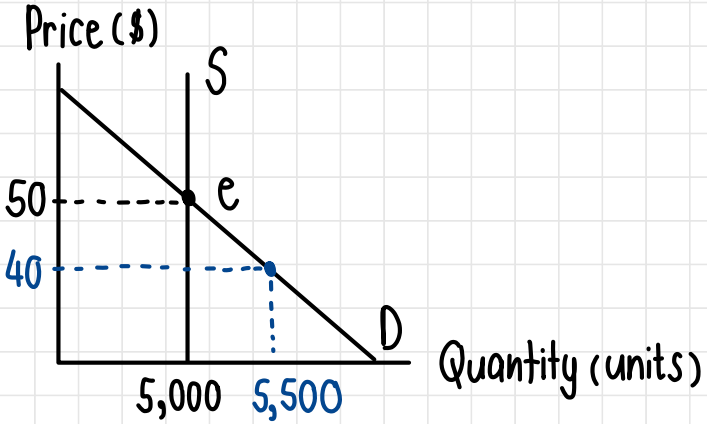


Ans. After the pandemic, the consumer surplus increases similar as the producer surplus increase as well when compare with before the pandemic.

3.a) System-on-a-chip (SoC) market



3.b) System-on-a-chip (SoC) market



$$\varepsilon_d = \frac{P_1}{Q_1} \cdot \frac{\Delta Q}{\Delta P}$$

$$= \frac{P_1}{Q_1} \cdot \frac{Q_2 - Q_1}{P_2 - P_1}$$

$$= \frac{50}{5{,}000} \cdot \frac{5{,}500 - 5{,}000}{40 - 50}$$

$$\varepsilon_d = -0.5$$

; When the price go up 1%, the quantity demanded go down 0.5%

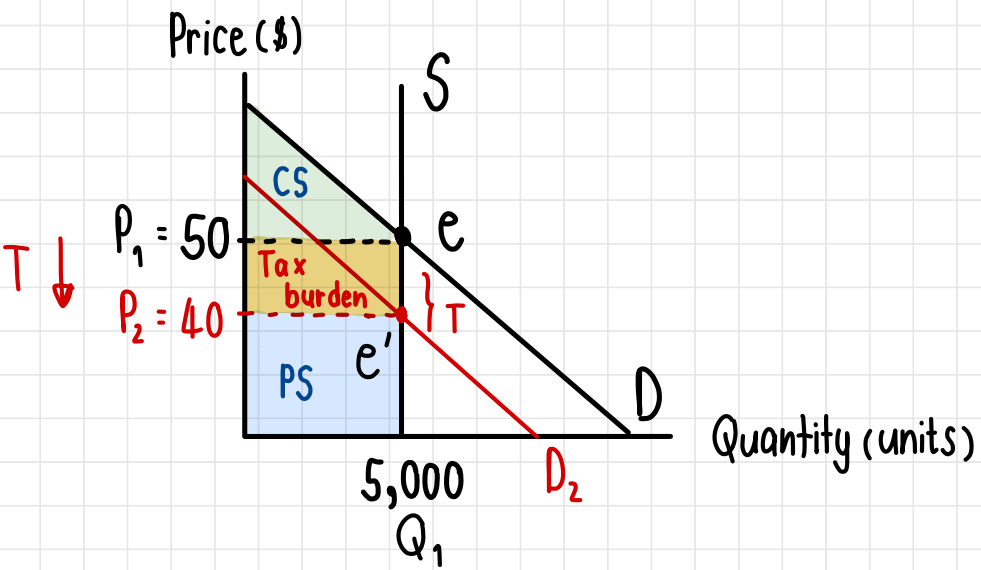
From information, the supply is perfectly inelastic

So $\varepsilon_s = 0$

Ans. The price elasticity of demand is -0.5 and the price elasticity of supply is 0 at the equilibrium

3.C)

System-on-a-chip (SoC) market



Ans. From buyers, they don't have to pay any tax because the sellers pay for this part.

From sellers, they have to pay tax for the government revenue. The graph shows that blue's highlight can be exists if we assume that the sellers are willing to sell when $P = 0$ up to Q_1

From government revenue, they gain more revenue from the sellers.

From deadweight loss, There is no DWL because all burden can be put onto the sellers.