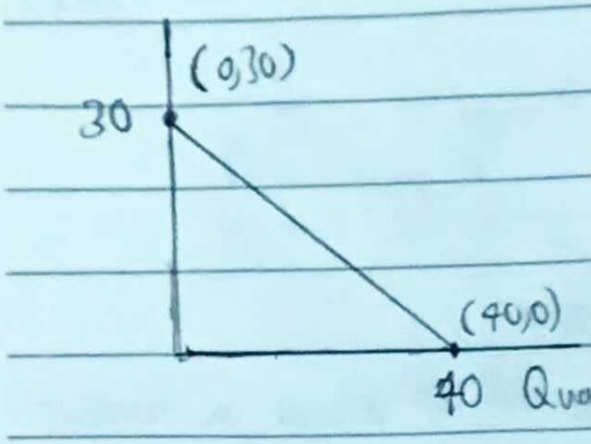
1. a)



- The quantity of spear on the vertical axis is 30, because 4 units of wood are needed to build 1 spear and there are 120 units of wood in total
- The quantity of bow on the horizontal axis is 40, because 3 units of wood are needed to build 1 bow and there are 120 units of wood in total
- The PPC is a straight line, because the opportunity cost in this question was assumed to be constant, therefore it is a perfectly substitutable cost graph.

1. b) $40 : 30$

$? : 1$

$\frac{40}{30} = \frac{x}{1}$

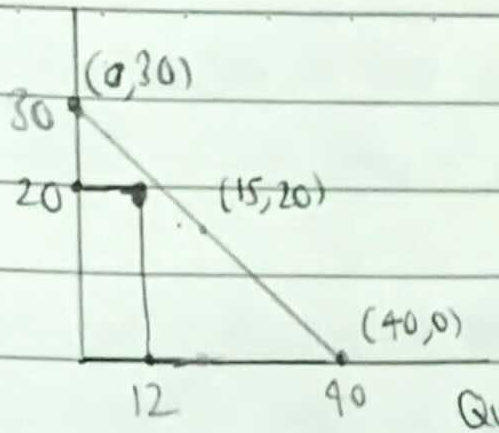
$40 = 30x$

$\frac{40}{3} = x$

$x = \frac{4}{3}$

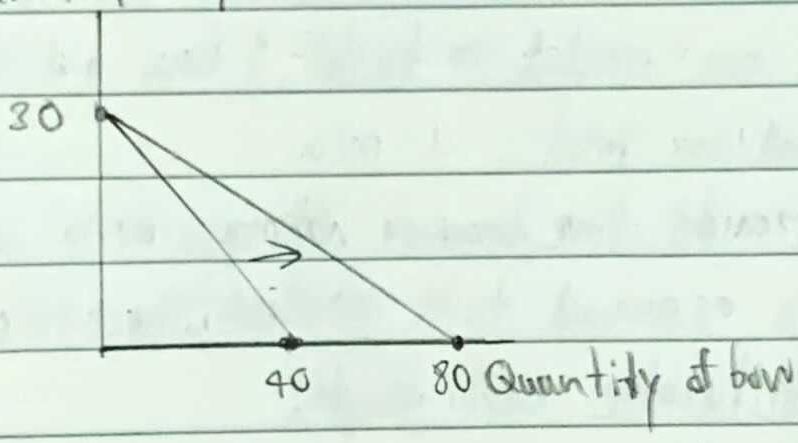
The opportunity cost of 1 spear is $\frac{4}{3}$ bow

1.C)



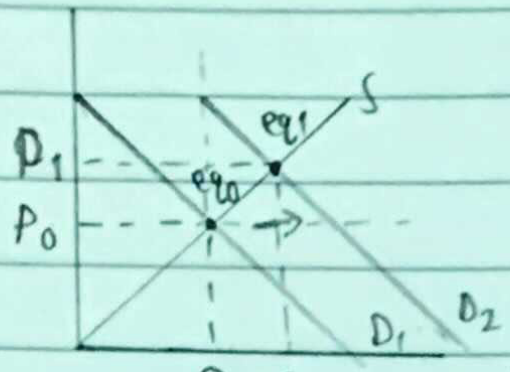
It is possible and inefficient, because it is below a frontier line, which means there are enough, in this case, woods to produce 20 spears and 12 bows, and there are also unused woods left after the production.

1. d)



- The maximum quantity of bow changed from 40 to 80 due to the new method, so the PPC shift right on the horizontal axis only.
- The opportunity cost of producing spear is higher, because the production of bow is easier. The cost of producing 1 spear was $\frac{1}{3}$ bow, but now it is $\frac{8}{3}$ bows.

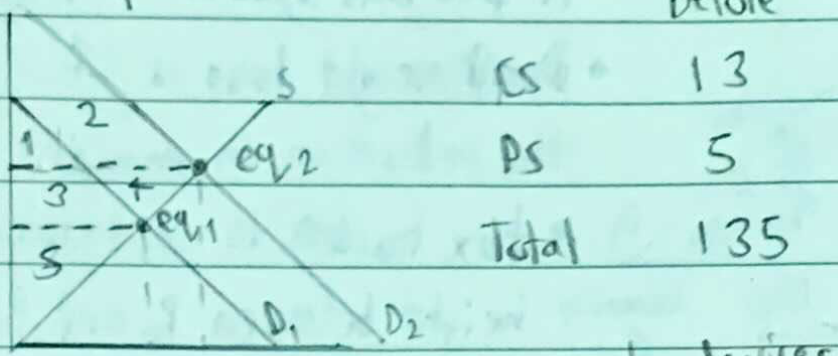
2.a) Price of computer devices



The market demand shift rightward from D_1 to D_2, because there is more quantity demanded in every price of computer devices due to the pandemic.

2.b) At the original equilibrium price P_0, there will be an excess supply, because it passed through the supply cure before the demand curve. The pandemic causes the equilibrium price to increase to P_1 and equilibrium quantity to move to Q_1 as shown above.

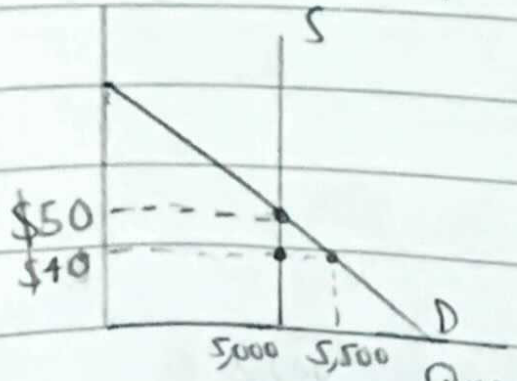
2.c) Price of computer devices



	before	during	diff
CS	13	12	-3,2
PS	5	345	34
Total	135	12345	24

- Consumers lost part 3, but got 2. Therefore, it depends on how much the demand shifted whether consumer benefit or not.
- Producers got 4, 5. There the situation benefit the producer.

3.a) Price of System-on-a-Chip



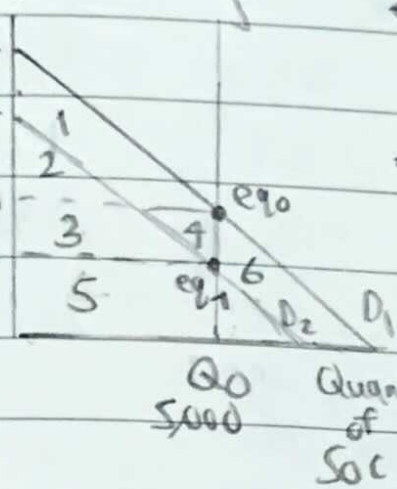
3.b) $|\varepsilon_d| = \left|\frac{\Delta Q}{\Delta P} \cdot \frac{P}{Q}\right| = \left|\frac{5{,}500 - 5{,}000}{40 - 50} \cdot \frac{50}{5{,}000}\right| = \left|\frac{500}{-10} \cdot \frac{50}{5000}\right| = \left|-\frac{5}{10}\right| = \left|-\frac{1}{2}\right| = \frac{1}{2}$

price elasticity of demand at the equilibrium is $\frac{1}{2}$ (inelastic)

$$\varepsilon_s = \frac{\Delta Q}{\Delta P} \cdot \frac{P}{Q} = \frac{5{,}000 - 5{,}000}{40 - 50} \cdot \frac{50}{5{,}000} = 0$$

price elasticity of supply at the equilibrium is 0, because the quantity supplied is locked and does not move depending on price.

3.c) Price of Soc



- The new equilibrium price and quantity is $40 and 5,000 units, respectively.
- Deadweight loss is 1 due to the reduction in market size
- tax burden is 3,4, because the height between P_0 and P_1 is the unit tax. It is a burden on producer because 3,4 were parts of the producer surplus before the intervention.