

Week 1-Individual Assignment:

$$400x - 100 = 1100 - 200x$$

$$2 = x$$

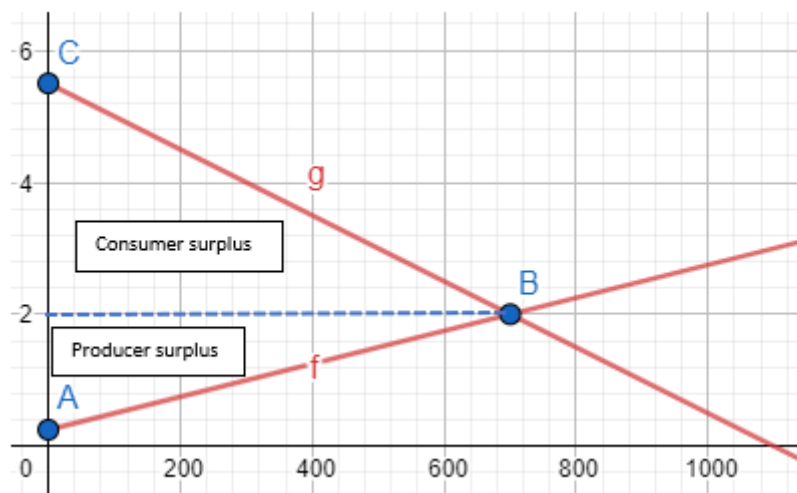
If there is no tax than the equilibrium price is 2 euro.

$$400 * 2 - 100 = 700$$

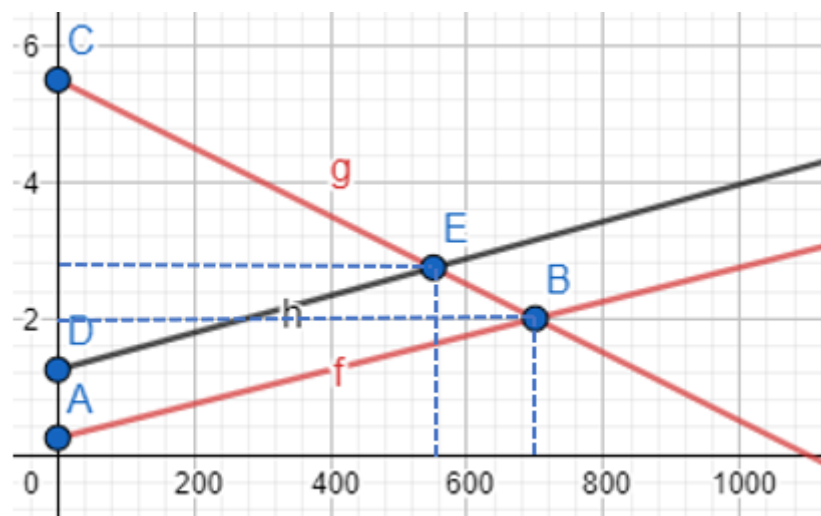
If there is no tax than the equilibrium quantity is 700.

If there is no tax than the consumer surplus is $3,5 * 700 / 2 = 1225$

If there is no tax than the producer surplus is $1,75 * 700 / 2 = 612,5$



If the consumer has to spend 1 euro more due to tax than we get the following change:



The equilibrium quantity is 550.

The equilibrium price is 2,75 euro.

The consumer surplus is $550 * 2,75 / 2 = 756,25$.

The producer surplus is $550 * 1,5 / 2 = 412,5$.

The deadweight loss is $1 * (700 - 550) = 150$.

If we tax the supply side than we can see that the producer will sell it for one more euro which is the same as when we taxed the consumer side. This is because the consumer had to pay also one euro more due to tax. In the end in both cases the consumer had to pay 1 more euro just for different reasons.