Question 1.

Suppose the supply of a good is given by the equation =240P−480 , and the demand for the good is given by the equation =640−80P , where quantity (Q) is measured in millions of units and price (P) is measured in dollars per unit.

The government decides to levy an excise tax of $2.00 per unit on the good, to be paid by the seller.

1. Calculate the equilibrium price and quantity without the tax.
2. Calculate the equilibrium price and quantity after the tax.
3. Calculate the consumer, producer, and overall surplus before the tax.
4. Calculate the consumer, producer surplus after the tax.
5. Calculate the government revenue from the tax as well as the amount of tax paid by buyers and sellers.
6. Calculate the deadweight loss of tax.