Practical Definitions:

- \( P_a \) is the reservation price for consumers in the market. \( P_a \) is also the highest price consumers are willing and able to buy.
- \( P_b \) is the lowest price for producers in the market. \( P_b \) is also the lowest prices producers are willing and able to sell.
- \( P^* \) is the initial market price equilibrium before taxes.
- \( Q^* \) is the initial market quantity equilibrium before taxes.
- \( P_c \) is the price that consumers pay after taxes.
- \( P_s \) is the price that producers receive after taxes.
- \( Q_1 \) is quantity purchased and sold after taxes.

Formulas:

- Tax Size = \( P_c - P_s \)
- Tax Revenue = \( (P_c - P_s)(Q_1) \)

Keep in mind that the government cannot tax something that is not sold or purchased. Therefore the government cannot tax up to \( Q^* \).

- \( CS = \) area above price paid by consumers, below demand curve, and up to quantity purchased.
- \( PS = \) area below price received by producers, above supply curve, and up to quantity sold.

Notice that taxes cause a deadweight loss to society.