1. a. Figure 3 illustrates the market for pizza. The equilibrium price is P_1, the equilibrium quantity is Q_1, consumer surplus is area A+B+C, and producer surplus is area D+E+F. There is no deadweight loss, as all the potential gains from trade are realized; total surplus is the entire area between the demand and supply curves—A+B+C+D+E+F.

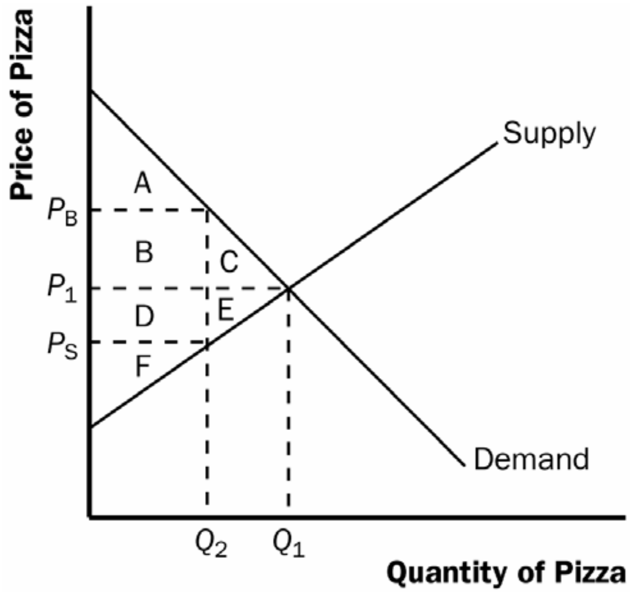

Figure 3

b. With a \$1 tax on each pizza sold, the price paid by buyers, P_B, is now higher than the price received by sellers, P_S, where $P_B = P_S + \$1$. The quantity declines to Q_2, consumer surplus is area A, producer surplus is area F, government revenue is area B+D, and deadweight loss is area C+E. Consumer surplus declines by B+C, producer surplus declines by D+E, government revenue increases by B+D, and deadweight loss increases by C+E.