what is the equilibrium if the government impose a supply quota of 75 units given an inverse demand as P=200-2Q and inverse supply as P=2Q

Solution

As in equilibrium Qd = Qs, so Qd = 100 - P/2, Qs = P/2. 100 - P/2 = P/2 P = \$100 Q = 100/2 = 50 units

If the government impose a supply quota of 75 units, the equilibrium will not change, as the equilibrium quantity is lower than the quota.