

PRICE EQUILIBRIUM PROBLEMS

Price equilibrium problems

Demand: $Q_D = 70 - 2P$ (Demand Equation)

Supply: $Q_S = \frac{2}{3}(P-10) = (P-10) \times \frac{2}{3}$ (Supply Equation)

$Q_S = \frac{2}{3}P - \frac{20}{3}$

At Equilibrium: $Q_D = Q_S$

$$70 - 2P = \frac{2}{3}P - \frac{20}{3}$$

$$70 + \frac{20}{3} = 2P + \frac{2}{3}P$$

$$\frac{230}{3} = \frac{8}{3}P$$

$P = \frac{230}{8} = R. 28.75/\text{unit} = P_E$

$Q_D = Q_S = Q_E = 70 - 2P_E = \frac{2}{3}P_E - \frac{20}{3}$

$$= 70 - 2 \cdot \left(\frac{230}{8}\right) = 70 - \frac{230}{4} = \frac{50}{4} = 12.5 \text{ units}$$

$$\frac{P-10}{1.5} = \frac{(P-10) \times 2}{3}$$

$$Q_S = \frac{2}{3}P - \frac{20}{3}$$

