16.1 Stackelberg 1 - Monopoly Review

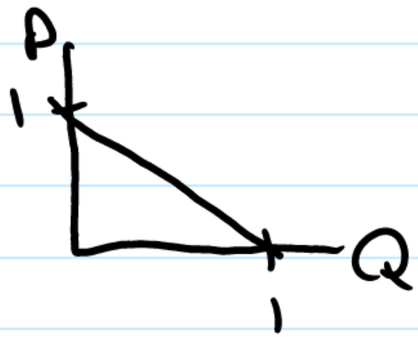
Saturday, October 31, 2020 12:29 PM

Stackelberg Monopoly

monopoly → $q = 1 - p$ $\quad q = a - bp \Rightarrow p = a/b - q/b$

↳ normalize to 1

↳ $p = 1 - q/b$



Cost = fixed cost + cq

↳ ignore frequently, esp. sunk costs

$u = p \cdot q - cq - f = (p - c) \cdot q = (1 - q - c) \cdot q$

$\frac{du}{dq} = 1 - q - c - q = 0 \Rightarrow 2q = 1 - c \Rightarrow q = 1 - c/2 \qquad p = 1 - \frac{1-c}{2}$

$u = \left[1 + c/2 - 2c/2\right](1 - c/2) = \left(\frac{1-c}{2}\right)^2$

Cournot Duopoly → 2 firms compete on quantity