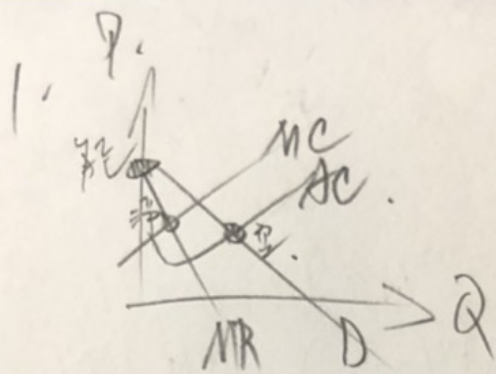


Week 11



$$\begin{aligned} \pi &= D - AC \\ \pi &= \text{MR} - D \\ \pi &= \text{MR} - MC \end{aligned}$$

1. (a) $a - bQ = c + eQ$

$$Q = \frac{a-c}{b+e}$$

$$P = a - b \left(\frac{a-c}{b+e} \right)$$

$$P = \frac{ab + ae + bc}{b+e}$$

(b) $Q = \frac{a-c}{b+e}$

(c) $e > 0, P = \frac{ab + ae + bc}{b+e}$

3. (A) $\text{MR} = \text{MC}$

$$120 - 2q = 4q$$

$$q = 20, P = 100$$

(B) $20 \times \frac{1}{2} = 10$

(C) $P = \text{MC}$

$$\pi = 100 \times 20 - 2 \times 20^2 = 1200$$

$$\pi = \frac{100}{20} \times 20 - 2 \times 20^2 = 1200$$

$$\frac{100}{20} = \frac{100 - 80}{100} = 0.2$$

$$96 \times 24 = 24 \times 24$$

$$= 1152, \text{MC} \text{ at } Q = 0$$

(D) $P = AC$

$$\pi = 80 \times 40 - 2 \times 40^2 = 0$$

$$(120 - 80) \times \frac{40}{2} = 800$$

$$1440 - 80 = 640$$