

完競

例, $Q^d = 2000 - 10P$, $n=40$

$$STC = q_1^2 + 50q_1 + 100$$

(1) 廠商短期供給線

$P > AVC$ 的 MC 曲線

$$P = MC = 2q_1 + 50$$

$$AVC = q_1 + 50$$

$$P > AVC$$

$$2q_1 + 50 > q_1 + 50 \text{ (恒成立)}$$

$$\downarrow p = 2q_1 + 50$$

$$q_1 = \frac{p}{2} - 25 \#$$

(3) 市場均衡價格、數量

$$\# S = P$$

$$20P - 1000 = 2000 - 10P$$

$$P^* = 100; Q^* = 1000 \#$$

(2) 市場供給曲線

個別水平加總

$$Q = \sum_{i=1}^{40} q_i$$

$$= 40 \left(\frac{P}{2} - 25 \right)$$

$$= 20P - 1000 \#$$

(4) 廠商最適產量、利潤

$$q_1 = \frac{P}{2} - 25$$

$$= \frac{100}{2} - 25 = 25 \#$$

$$\pi = TR - TC$$

$$= 100 \cdot 25 - (25^2 + 50 \times 25 + 100)$$

$$= 525 \#$$

延伸, $Q^d = 3500 - 10P$, $STC = q_1^2 + 50q_1 + 100$, $n=40$

$$(1) MC = 2q_1 + 50 = P$$

$$AVC = q_1 + 50$$

$$q_1 = \frac{P}{2} - 25 \#$$

$$(3) 20P - 1000 = 3500 - 10P$$

$$P^* = 150, Q^* = 2000 \#$$

$$(2) Q = \sum_{i=1}^{40} q_i$$

$$= 20P - 1000 \#$$

延伸, $Q^d = 2000 - 10P$, $n=40$

$$STC = q_1^2 + 80q_1 + 300$$

$$(1) MC = 2q_1 + 80 = P$$

$$AVC = q_1 + 80$$

$$q_1 = \frac{P}{2} - 40 \#$$

$$(2) Q = \sum_{i=1}^{40} q_i$$

$$= 40 \left(\frac{P}{2} - 40 \right)$$

$$= 20P - 1600 \#$$

$$(4) q_1 = \frac{P}{2} - 25$$

$$= \frac{150}{2} - 25 = 50 \#$$

$$\pi = 150 \cdot 50 - (50^2 + 50 \cdot 50 + 100) = 2400 \#$$

$$(3) 20P - 1600 = 2000 - 10P$$

$$P^* = 120, Q^* = 800 \#$$

$$(4) q_1 = \frac{P}{2} - 40$$

$$= \frac{120}{2} - 40 = 20 \#$$

$$\pi = 120(20) - (20^2 + 80 \times 20 + 300)$$

$$= 100 \#$$

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