

Subject: 5/9

No. :
Date :

1. $P = 100 - q^*$, $C = 30 + 20q^*$

(A) 均衡價格, 產量, 利潤?

$$\text{Max } \pi = TR - TC$$

$$MR = MC$$

$$TR = P \cdot q = (100 - q) \cdot q = 100q - q^2$$

$$MR = \frac{dTR}{dq} = 100 - 2q$$

$$TC = 30 + 20q$$

$$MC = 20$$

$$P^* = 100 - 40 = 60$$

$$100 - 2q = 20$$

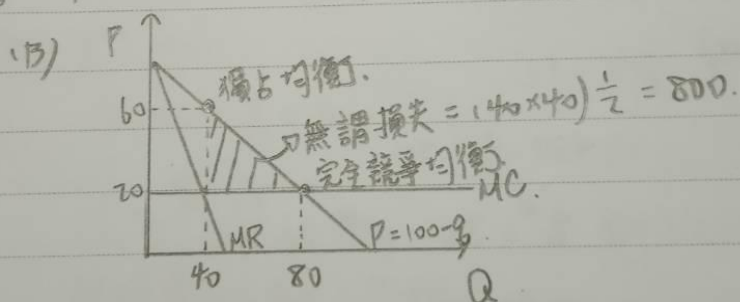
$$2q = 80$$

$$q^* = 40$$

$$\pi^* = P \cdot Q - TC$$

$$= (40 \times 60) - (30 + 20 \times 40)$$

$$= 1570$$



(C) 獨占力

$$L = \frac{P - MC}{P} = \frac{60 - 20}{60} = \frac{2}{3}$$

(D) $MR = MC + 10$

$$100 - 2q = 20 + 10$$

$$q^* = 35, P^* = 65$$

$$\pi^* = (35 \times 65) - (30 + 20 \times 35)$$

$$= 1545$$

Subject :

$$(E) MR = (1 + 10\%) \cdot MC$$

$$\Rightarrow (1 + 10\%) MR = MC$$

$$100 - 2Q = 0.9 \times 20$$

$$Q^* = 41, P^* = 59$$

$$\pi^* = (41 \times 59) - (130 + 20 \times 41) = 1569$$

(F) 定額稅不影響 MC.

$$(G) \text{Max } \pi^* = (1 - 20\%) \pi = (1 - 20\%) (TR - TC)$$

$$\Rightarrow 0.8 MR = 0.8 MC$$

$$\Rightarrow MR = MC.$$

$$(H) P = MC$$

$$\Rightarrow 100 - Q = 20$$

$$\Rightarrow Q^* = 80, P^* = 20$$

$$\Rightarrow \text{故虧損} = (80 \times 20) - (130 + 20 \times 80) = -30$$

$$\Rightarrow \text{無謂損失} = 0.$$