

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

(F) 均衡價格, 產量, 利潤?

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

$$MR = MC$$

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

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

$$TC = 30 + 20q$$

$$MC = 20$$

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

$$\pi^* = P(Q) \times Q - TC$$

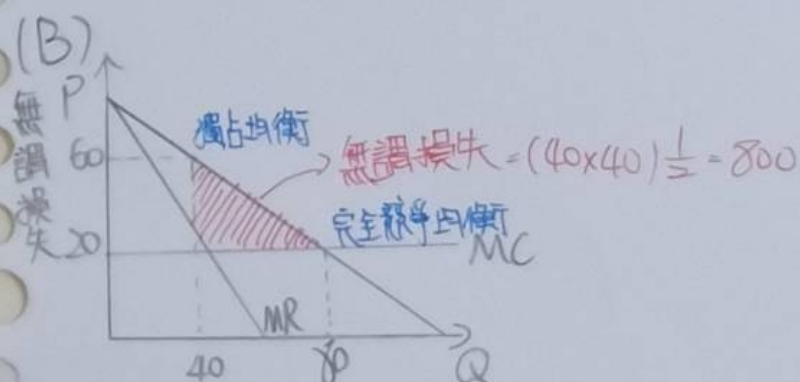
$$= (40 \times 60) - (30 + 20 \times 40)$$

$$= 1570$$

$$100 - 2q = 20$$

$$2q = 80$$

$$q^* = 40$$



(C) 獨占力

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

$$(D) MR = MC + 10$$

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

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

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

$$= 1545$$

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

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

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

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

$$\pi^* = (41 \times 59) - (30 + 20 \times 41)$$

$$= 1569$$

(F) 定額稅不影响 MC

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

$$\Rightarrow 0.8 MR = 0.8 MC \Rightarrow MR = MC$$

$$(H) P = MC \Rightarrow 100 - q = 20$$

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

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

$$= -70$$

$$\Rightarrow \text{無謂損失} = 0$$