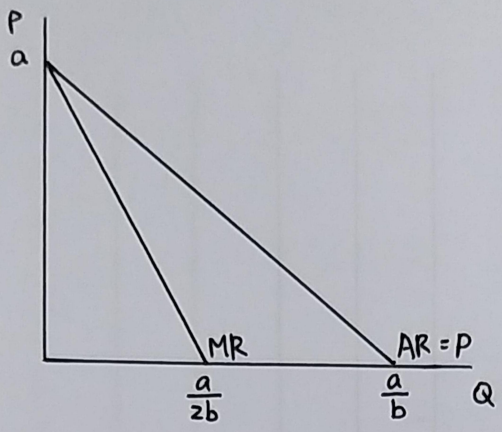
1. 假設獨占市場的需求曲線為線性.

$P = a - bQ$, TR, MR, AR.

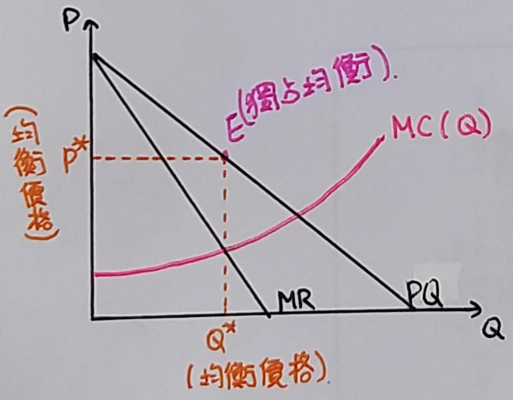


$$TR = P \cdot Q = aQ - bQ^2$$

$$AR = \frac{TR}{Q} = a - bQ$$

$$MR = \frac{dTR}{dQ} = a - 2bQ$$

2. 假設獨占市場的需求為線性, 即 $P = a - bQ$
追求利潤極大化, 均衡價格和數量



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

$$\frac{d\pi}{dQ} = MR - MC = 0$$

$MR = MC$ (利潤極大)

$TR = P \cdot Q - TC(Q)$

⇕

$MR = MC$

$$\frac{d(a-bQ)Q}{dQ} = a - 2bQ$$

$$a - 2bQ = C$$

$$Q^* = \frac{a-c}{2b}$$

$$P^* = a - b \cdot \left(\frac{a-c}{2b}\right)$$

$$= \frac{2a - a + c}{2}$$

$$= \frac{a+c}{2}$$