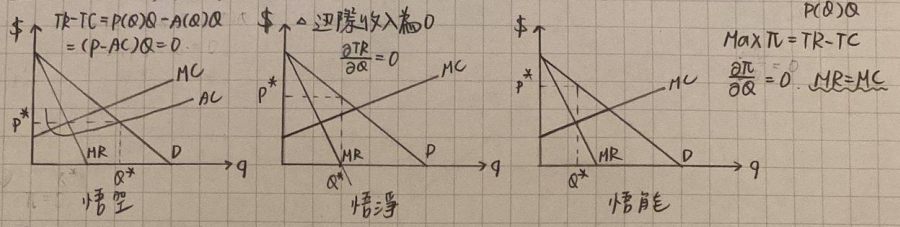
獨占

B10826006 詹品潔

1. 悟空、悟淨、悟能三人共同經營鎮上唯一一家opo非廳。悟空認為大要不賠錢，銷售量愈大愈好；悟能認為總收益愈大愈好；悟淨認為應該追求利潤極大。請在同一個圖形上畫出此opo非廳的需求曲線和成本曲線，並標出這三人心目中的優搭數量組合



$P(Q)Q$

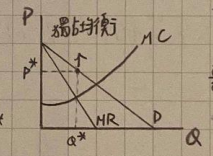
$Max\pi = TR-TC$

$\frac{\partial \pi}{\partial Q}=0$ MR=MC

2. Suppose a monopolist faces the market demand function $P=a-bQ$. Its marginal cost is given by $MC=c+eQ$. Assume that $a>c$ and $2b+e>0$.

a) Derive an expression for the monopolist's optimal quantity and prices in terms of a, b, c and e.

$\begin{cases} P=a-bQ \Rightarrow \frac{Max\pi}{Q^*\to P^*} \\ MC=c+eQ \to MR^{Q^*}=MC \to P(Q^*)=P^* \end{cases}$



$\pi = TR-TC \xrightarrow{aQ-bQ^2} = (a-bQ)\cdot Q - \square$

$\frac{\partial \pi}{\partial Q}=0 \to MR=MC$

$a-2bQ=c+eQ$

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

$P^*=a-bQ^*$

$=a-b\frac{(a-c)}{(2b+e)}$

$=\frac{ab+ae+bc}{2b+e}$

b) Show that an increase in c (which corresponds to an upward parallel shift in marginal cost) or a decrease in a (which corresponds to a leftward parallel shift in demand) must decrease the equilibrium quantity of output.

Since $Q=\frac{a-c}{2b+e}$，增加 c or 減少 a

c) Show that when $e\geq 0$, an increase in a must increase the equilibrum price.

Since $e\geq 0$ and $P=\frac{ab+ae+bc}{2b+e}$，增加 a.

無謂損失 = 1440 - 800 = 640