= ⑭ (A) $q=10L^{0.5}K^{0.5} \Rightarrow L^* = q^2/100k$

$STC = 10L^* + 10k = (q^2/10k) + 10k$

$AC = (q^2/10k) + (10k/q)$ $MC = q/5k$

(B) $\frac{\partial STC}{\partial K} = \frac{-q^2}{10k^2} + 10 = 0 \Rightarrow k^2 = \frac{q}{10}$ · 代入STC得到

$TC = STC(k=k^2) = \frac{q^2}{10(\frac{q}{10})} + 10\frac{q}{10} = q + q = 2q$

⑦ (A) $AFL = FC/q = 50/10 = 5$

(B) $AVC = q^2 - 12q + 1 \Rightarrow dAVC/dq = 2q - 12 = 0 \Rightarrow q = 6$

(C) $q \geq 6$ · 當AVC遞增時 APL遞減

(D) $MC = 3q^2 - 24q + 1 \Rightarrow dMC/dq = 6q - 24 = 0 \Rightarrow q = 4$

當MC遞增 MP遞減 $q \geq 4$