3/30 隨堂 4.7 成本

4 week 6

(A) $q = 10L^{0.5}K^{0.5}$ $L^* = \frac{q^2}{100K}$

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

$AC = (\frac{q}{10k}) + (\frac{10k}{q})$, $MC = (\frac{q}{5k})$

(B) $\frac{\partial STC}{\partial k} = \frac{-q}{10k^2} + 10 = 0 \Rightarrow k = \frac{q}{10}$ 代 STC 中

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

7. (A) $AFL = \frac{FC}{q} = \frac{50}{10} = 5$

(B) $AVC = q^2 - 12q + 1 \rightarrow \frac{dAVC}{dq} = 2q - 12 - 0 \rightarrow q = 6$

(C) 根據生產與成本對偶性，知道當 AVC 遞增時 AP_L 遞減，A: $q \geq 6$

(D) $MC = 3q^2 - 24q + 1 \rightarrow \frac{dMC}{dq} = 6q - 24 = 0 \rightarrow q = 4$

根據生產與成本對偶性，知道當 MC 遞增時 MP_L 遞減，A: $P \geq 4$