

Week 6

A109260658

4.

$$(A) Q = 10L^{\frac{1}{2}}K^{\frac{1}{2}}$$

$$Q = 10L^{\frac{1}{2}}K^{\frac{1}{2}}$$

$$\Rightarrow L^* = \frac{Q^2}{100K}$$

$$STC = 10L + 10K = (Q^2 + 10K) + 10K$$

$$AC = (Q/10K) + (10K/Q), MC = Q/5K$$

$$(B) \frac{\partial STC}{\partial K} = \frac{-Q^2}{10K^2} + 10 = 0 \Rightarrow K = \frac{Q}{10}, \text{ 代入 } STC \text{ 函数中:}$$

$$TC = STC(K=\bar{K}) = \frac{Q^2}{10(Q/10)} + 10 \cdot \frac{Q}{10} = Q + Q = 2Q$$

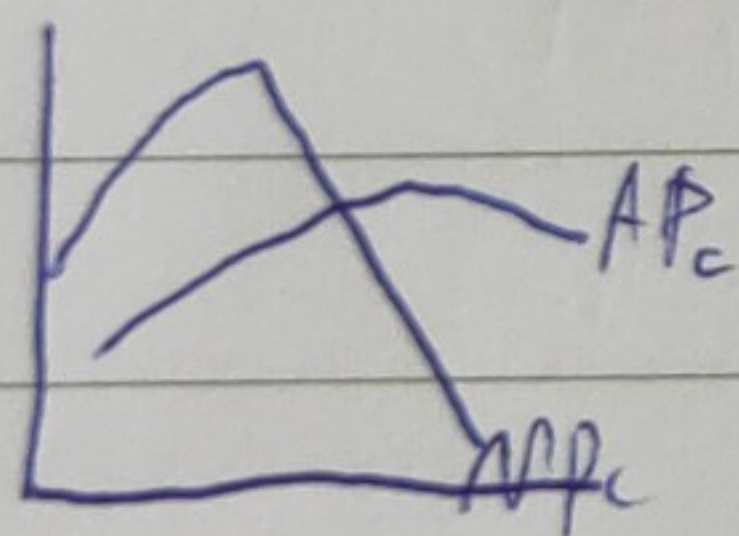
$$7 \quad TC = Q^3 - 12Q^2 + Q + 50$$

$$(A) AFC = FC/Q = 50/10 = 5$$

$$(B) AVC = Q^2 - 12Q + 1 \Rightarrow \frac{dAVC}{dQ} = 2Q - 12 = 0 \Rightarrow Q = 6$$

(C)

AVC 递增时, AP_c 递减 $\Rightarrow Q \geq 6$, AP_c 递减



$$(D) MC = 6Q - 24 = 0 \Rightarrow Q = 4$$

MC 递增时, MP_c 递减 $\Rightarrow Q \geq 4$ MP_c 递减