

第 2 题 10.6 > 10.3 4 # w.b.

④ 生产函数  $q = 10L^{0.5}K^{0.5}$  且  $w=r=10$

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

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

$$AC = \frac{q}{10k} + \frac{10k}{q} \quad MC = \frac{q}{5k}$$

$$(B) \frac{\partial STC}{\partial k} = \frac{-q^2}{10k^2} + 10 = 0 \quad k = \frac{q}{10} \text{ 代入 } STC$$

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

⑦.  $TC = q^3 - 12q^2 + q + 50.$

$$(A) AFC = \frac{FC}{q} = \frac{50}{10} = 5$$

$$(B) AVC = q^2 - 12q + 1 \Rightarrow \frac{\partial AVC}{\partial q} = 2q - 12 = 0 \quad q = 6$$

(C) 根据生产及成本的对偶性,  $AVC \uparrow \quad APC \downarrow$   
 $q \geq 6 \#$

$$(D) MC = 3q^2 - 24q + 1 \Rightarrow \frac{\partial MC}{\partial q} = 6q - 24 = 0$$

$$q = 4.$$

$MC \uparrow \quad MPL \downarrow \quad q \geq 4 \#$