

Week 6 作業

14, $TC = q^3 - 12q^2 + q + 50$

$TC = VC + FC$ $AFC = \frac{FC}{q}$

A, $q = 10$ $AFC = ?$

$$AFC = \frac{50}{10} = 5$$

B, $AVC = MC$, 產量 = ?

$$AVC = \frac{VC}{q} = q^2 - 12q + 1$$

$$\frac{dAVC}{dq} = 2q - 12 = 0$$
$$q = 6$$

C, 產量 > ? , APL 遞減

$$AVC = \frac{VC}{q} = w \frac{L}{q}$$

$$\frac{L}{q} = APL$$

$$= \frac{w}{APL}$$

$$APL \uparrow ; AVC \downarrow \quad q \geq 6$$
$$APL \downarrow ; AVC \uparrow$$

D, 產量 > ? , MP_L 遞減

$$SMC = \frac{dTC}{dq} = \frac{dVC}{dq} = \frac{dwL}{dq}$$

$$MC = 3q^2 - 24q + 1$$

$$\frac{dMC}{dq} = 6q - 24 = 0$$

$$q = 4$$

$$q \geq 4$$

$$\frac{dL}{dq} = MP_L$$

$$= \frac{w}{MP_L}$$

$$SMC \uparrow ; MP_L \downarrow$$