

week 4 李廣隆 1108240013.

1. (a)  $LTC = wL + rK \Rightarrow LTC = 10L + 10K.$

(b)  $MRTS_{LK} = -\frac{\Delta K}{\Delta L} = -\frac{\Delta K}{\Delta L}.$

(c) 當  $L \uparrow, K \downarrow$  時  $MRTS_{LK}$  下降.

(d)  $L^* = L(w, r, q) + rK(w, r, q) \Rightarrow q = 10L^{0.5}K^{0.5}.$

(e) 總成本  $= LTC = wL(w, r, q) + rK(w, r, q) \Rightarrow \sqrt{q}$

平均成本  $= LAC = \frac{LTC(w, r, q)}{q} \Rightarrow 2.$

邊際成本  $= LMC = \frac{\partial LTC(w, r, q)}{\partial q} \Rightarrow 2.$

(f)  $LTC = wL^* + rK^* \Rightarrow LTC(10) = 20.$