Week 6

4.

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

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

$AC = \frac{q}{10K} + \frac{10K}{q}$

$MC = \frac{q}{5K}$

(B) $\frac{STC}{K} = \frac{q^2}{10K^2} + 10 = 0$, $K^2 = \frac{q}{10}$

$TC = STC(K=K^2) \Rightarrow \frac{q^2}{10(\frac{q}{10})^2} + 10\frac{q}{10} = 0$

7.

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

(B) $AVC = q^2 - 12q + 1 \Rightarrow 2q - 12 = 0 \Rightarrow q = 6$

(C) AVC 遞增, APL 遞減 $\Rightarrow q \geq 6$

(D) $MC = 3q^2 - 24q + 1 \Rightarrow 6q - 24 = 0 \Rightarrow q = 4$