

9.

$$(A) Q = \frac{L}{2} = \frac{K}{4} \Rightarrow L = 2Q$$

总成本

$$K = 4Q = 7C = 1 \times 2Q + 2 \times 4Q = 10Q$$

$$TC_A = 10Q + 40$$

$$总成本 = C = \frac{L}{4} = \frac{K}{2} \Rightarrow L = 4Q$$

$$K = 2Q = 7C = 1 \times 4Q + 2 \times 2Q = 8Q$$

$$TC_B = 8Q + 100$$

$$(B) Q = 20, TC_A = 240, TC_B = 260. \text{ 选择 } A$$

$$(C) Q = 40, TC_A = 440, TC_B = 420. \text{ 选择 } B$$

$$(D) \text{ 令 } TC_A = TC_B, \text{ 解得 } Q = 30, \text{ 产量在 } 30 \text{ 时选择 } A$$

11.

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

$$TC = 10L^* + 10K = \left(\frac{K}{10}\right) + 10K$$

$$AC = \left(\frac{K}{100K}\right) + \left(\frac{10K}{K}\right), AC = \frac{5}{K}$$

$$(B) \frac{dTC}{dK} = \frac{-K}{10K^2} + 10 = 7K = \frac{5}{10} \Rightarrow K = \frac{5}{70} \Rightarrow K = \frac{1}{14}$$

$$TC = \frac{K}{10K} + 10 \times \frac{K}{10} = 1 + 10 = 11$$

12.

$$Q = 20, AC - AVC = AFC = 10 \Rightarrow FC = AFC \times Q = 10 \times 20 = 200$$

$$Q = 40, AC - AVC = AFC = \frac{FC}{Q} = \frac{200}{40} = 5$$

13.

$$VC(10) = \int_0^{10} 10Q^2 dQ = 5Q^3 \Big|_0^{10} = 5000$$

$$TC = VC + FC = 5000 + 1000 = 6000$$