

中级微观经济学 厂商理论与行业供给作业

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一. 判断题

1. X 有水平区间
2. X 充分条件, 完全无关
3. X 由成本函数决定
4. ✓
5. ✓

二. 选择题

1. C $q = \min\{x_1, x_2\}$
 $13b + qx = px, p - 17q = 13b \Rightarrow p \geq 17 \in C$
2. A $3y^2 - py + 675 = 0 \Rightarrow \frac{12 \times 675 - p^2}{12}$ $p = 18 \times 5 = 90 \in A$
3. C $p = 4, n = 2, sp = 12 \Rightarrow p = 2.4$

三. 计算题

$$(1) LTC = 12Q^3 - 12Q^2 + 40Q$$

$$\Rightarrow LMC = 36Q^2 - 24Q + 40$$

$$36Q^2 - 24Q + 40 = 100 \Rightarrow Q_1 = 10, Q_2 = -2 (\text{舍去})$$

$$LAC = \frac{LTC}{Q} = 20$$

$$\pi = (p - LAC) \times Q = 800$$

产量为10, 平均成本为20, 利润为800

$$(2) p = LMC = LAC$$

$$LAC = Q^2 - 12Q + 40$$

$$Q_{LAC \min} \Rightarrow 2Q - 12 = 0 \Rightarrow Q = 6$$

$$\therefore LAC = Q^2 - 12Q + 40 = 4$$

此时价格为4, 产量为6

$$(2) Q = 600 - 15 \times 4 = 600 \quad n = \frac{Q}{6} = 100$$

厂商数量为100个