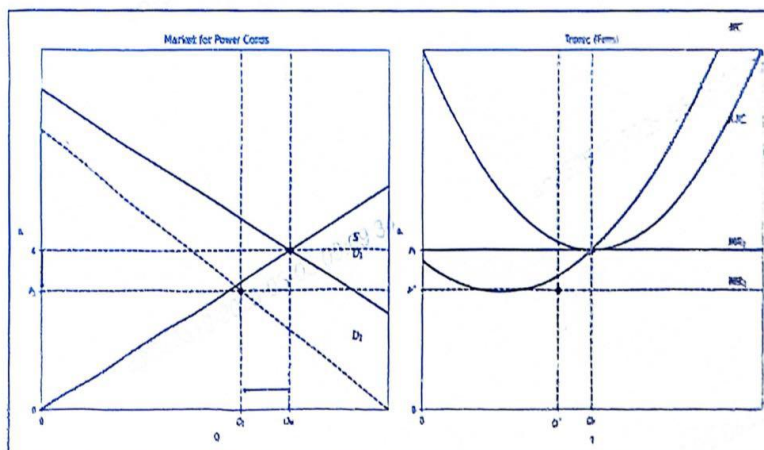


FRQ1

范例1

a.&b.



c. In the long run, positive economic profits will attract entry into the market. As new firms enter, market supply increases, causing the market price to fall. Entry continues until price returns to the minimum ATC, eliminating profits. Therefore, the long-run market equilibrium price returns to \$4, but the equilibrium quantity is lower than the original QM due to decreased demand.

d. Using cost minimization condition $\frac{MP_L}{w} = \frac{MP_K}{r}$, we get $\frac{75}{25} = \frac{MP_K}{40} \Rightarrow MP_K = 120$. So the marginal product of capital is 120.

e. Cross-price elasticity of demand for power cords with respect to smart cable price is $\frac{-8\%}{-10\%} = 0.8$. This is positive, indicating the two goods are substitutes (as expected), not complements.

FRQ2

A. Yuni chooses between one tennis racket, which gives 600 utils, and two shirts, which together give $400 + 300 = 700$ utils. Because 700 utils from two shirts is greater than 600 utils from one tennis racket, Yuni will choose the two shirts.

B.

(i). If each tennis racket costs 100 and Yuni buys 2 rackets, she spends $2 \times 100 = 200$. With an income of 500, she has 300 left, which buys $300 \div \$50 = 6$ shirts. Therefore, if Yuni purchases 2 tennis rackets, she can purchase up to 6 shirts.

(ii). To find the utility-maximizing combination, compare marginal utility per dollar (MU / Price) for tennis rackets (TR) and shirts (S):

- First shirt: $MU = 400$; $MU / \text{Price} = 400 \div 50 = 8$
- Second shirt: $MU = 300$; $MU / \text{Price} = 300 \div 50 = 6$
- First tennis racket: $MU = 600$; $MU / \text{Price} = 600 \div 100 = 6$
- Second tennis racket: $MU = 400$; $MU / \text{Price} = 400 \div 100 = 4$
- Third tennis racket: $MU = 200$; $MU / \text{Price} = 200 \div 100 = 2$
- Third shirt: $MU = 200$; $MU / \text{Price} = 200 \div 50 = 4$

- Third shirt: $MU = 200$; $MU / Price = 200 \div 50 = 4$
- Fourth shirt: $MU = 100$; $MU / Price = 100 \div 50 = 2$
- Fifth shirt: $MU = 50$; $MU / Price = 50 \div 50 = 1$

Yuni will buy units in the order of highest $MU/Price$ first. Through marginal analysis, she ends up buying 3 tennis rackets and 4 shirts, using all her \$500. This combination maximizes her total utility.

C.

(i). Because there is a positive externality in consumption, the marginal social benefit (MSB) of tennis rackets is greater than the marginal social cost (MSC) at the market equilibrium. In other words, society values each tennis racket more highly than the market price reflects.

(ii). Yes. A per-unit subsidy to producers effectively lowers their cost of supplying tennis rackets, shifting the supply curve downward. As a result, the equilibrium price for consumers decreases, so they purchase more tennis rackets.

FRQ3

a. Haye is operating in a *monopolistically competitive* market. This is because there are many firms selling slightly differentiated products and there are no barriers to entry or exit.

b. The profit-maximizing quantity is where $MR = MC$, which occurs at $Q = 100$. To find the corresponding price, we look to the demand curve at $Q = 100$, which is $P = 6$.

c. To calculate consumer surplus (CS), note that the demand curve's vertical intercept is $P = 8$, and consumers pay $P = 6$. Hence, the height of the surplus triangle is $8 - 6 = 2$, and its base is $Q = 100$. The formula for the area of a triangle is $(1/2) \times \text{base} \times \text{height}$:

$$CS = (1/2) \times 100 \times (8 - 6) = (1/2) \times 100 \times 2 = 100.$$

d. The profit-maximizing quantity $Q = 100$ is *not* allocatively efficient. Allocative efficiency requires $P = MC$. At $Q = 100$, $P = 6$ but $MC = 4$, so $P > MC$, indicating underproduction from society's standpoint.

e. Because there are no barriers to entry in monopolistic competition, other firms will enter in the long run if Haye is earning positive economic profit. The entry of new firms will cause Haye's demand curve to shift left until economic profits are driven to zero. In the long-run equilibrium, the price will settle where $P = ATC$ and economic profit is eliminated.