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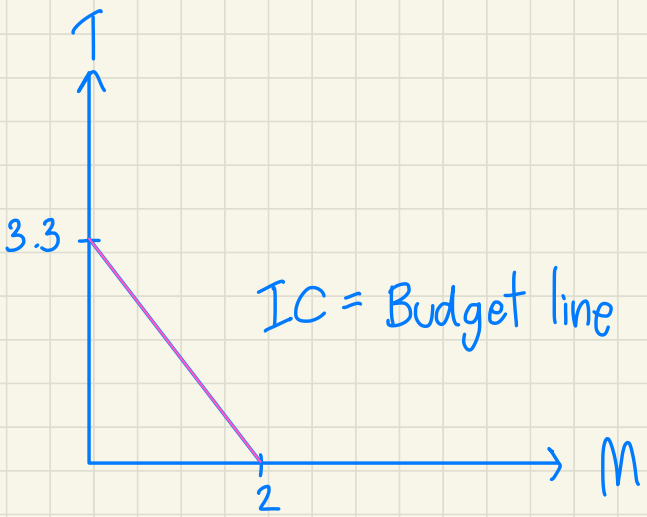
(1.a) If Neo has 10,000 baht of budget, how many times of each destination he will choose to travel and why? Draw his indifferent curve and budget line to analyze his decision and indicate details on the graph.

1.a

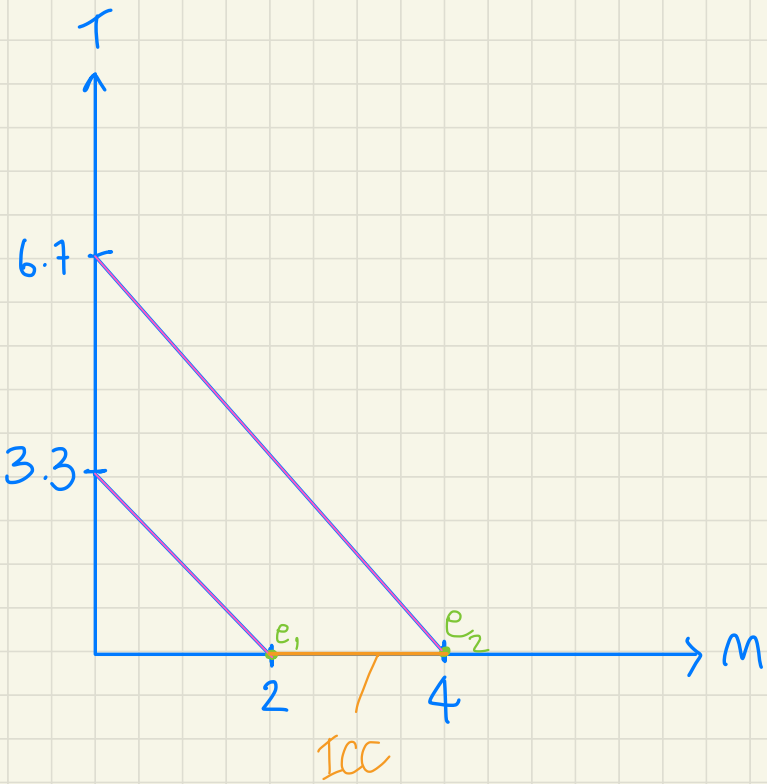


Maldives and Thailand are perfectly substitude goods

Neo will choose to travel to Maldives 2 times because it is only possible way to maximize his utility

(1.b) If his budget increases to 20,000 baht, draw his income-consumption curve (ICC). Also plot his income demand of traveling in Thailand, find its slope and explain.

At budget 20000



Travelling to Maldives 4 times and Thailand 0 is the combination that will maximize his utility

Slope of ICC = 0

Question (2) Consider a long-run production in which there are only two inputs labor and capital, and the input prices for labor and capital are wage (w) and interest rate (r), respectively. Suppose that at the equilibrium levels of labor and capital (L^*, K^*), the marginal product of labor (MP_L) and marginal product of capital (MP_K) are 6 and 8, respectively.

(2.a) Calculate the marginal rate of technical substitution (MRTS), state the cost-minimization conditions of this firm, given that the required output is fixed at Q_0. If the market wage rate (w) is \$3, what is the interest rate at the equilibrium?

(2a) $MRTS = \frac{MP_L}{MP_K} = \frac{6}{8} = \frac{3}{4}$ ✱

cost-minimization → slope of isoquant = slope of isocost

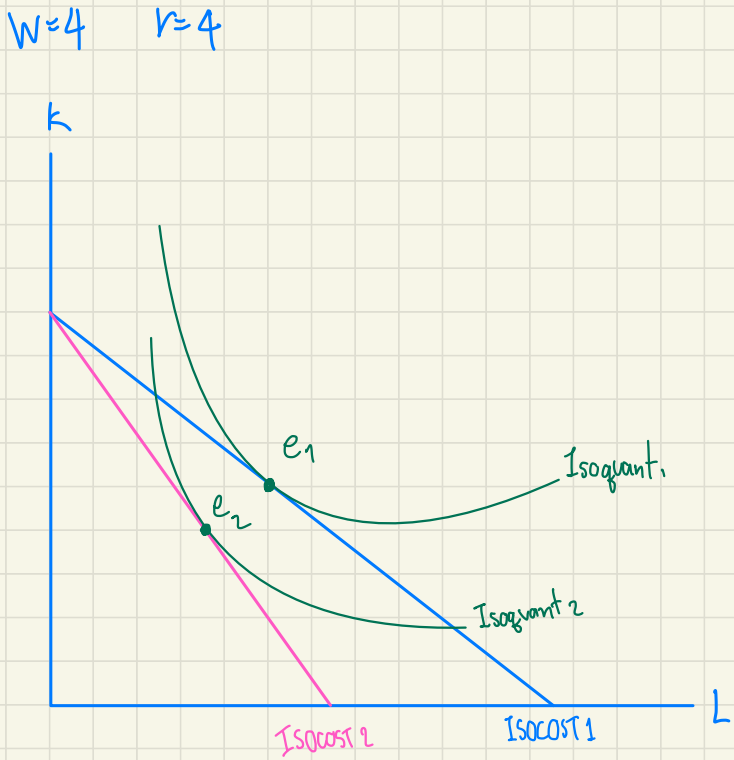
$$\frac{MP_L}{MP_K} = \frac{w}{r}$$

$$\frac{3}{4} = \frac{3}{r}$$

$$3r = 12$$

$$r = 4$$ ✱

(2.b) Suppose now that the wage rate (w) increases to \$4, *ceteris paribus*, draw a diagram to illustrate the changes in the cost-minimizing combination of inputs.

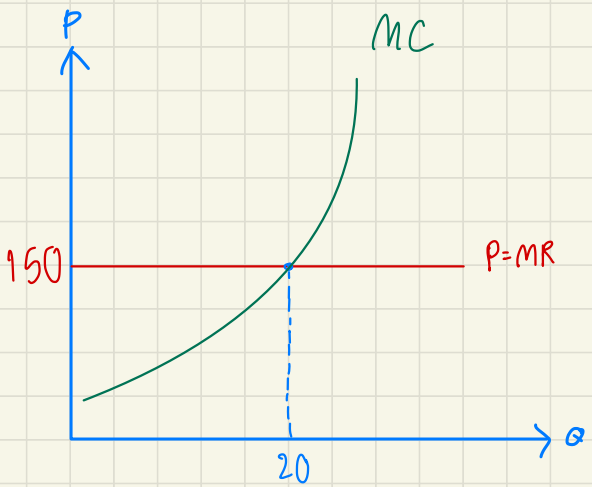


Question (3) Consider a perfectly competitive market, in which the current equilibrium price is 150 baht per unit.

(3.a) Suppose that a firm in this market sells 20 units of its output. State the profit-maximizing condition of this firm and draw a diagram to illustrate how the equilibrium quantity is determined.

3a

3a



3b

$Q = 20$

$ATC = 180$

$AFC = 60$

AVC / TR / TC / Profit

$ATC = AVC + AFC$

$180 = AVC + 60$

$AVC = 120$

$TR = PQ$

$= 150 \times 20$

$TR = 3000$

$\frac{TC}{Q} = ATC$

$\frac{TC}{20} = 180$

$TC = 3600$

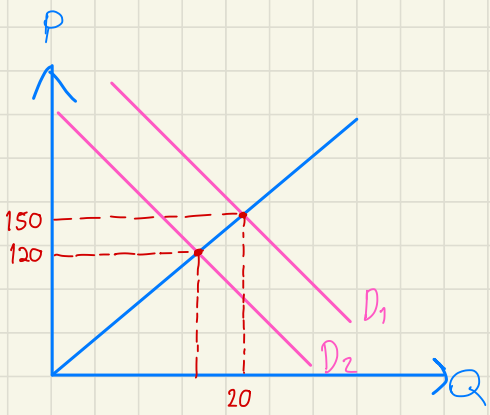
$Profit = TR - TC$

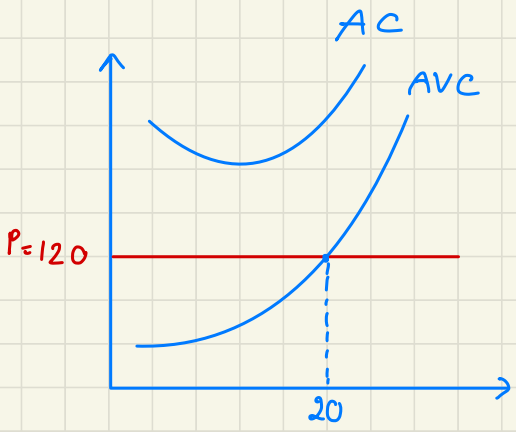
$= 3000 - 3600 = -600$

(3.c) From (3.b), should this firm stay in the market in the short run? Justify your answer.

(3c) firm should stay in because their AVC still lower than price

(3.d) Suppose now that the market demand decreases and the market price decreases to 120 baht per unit. Draw two diagrams to illustrate: (i) the change in the equilibrium price and quantity in the market, (ii) how the change in the market price affects the firm equilibrium quantity and profit. Would your answer from part c. change?

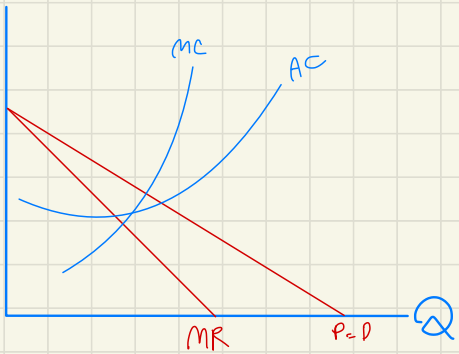




Firm can either stay in or shut down because

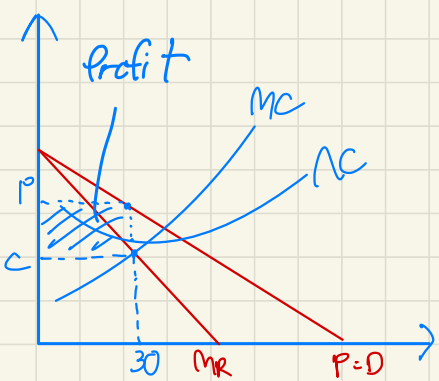
Price = AVC

(4.a) Derive the marginal revenue function. Draw a diagram to illustrate the demand, marginal revenue, marginal cost, and average cost.



$$TR = P \cdot Q$$
$$TR = (60 - 0.6Q)Q$$
$$= 60Q - 0.6Q^2$$
$$MR = 60 - 1.2Q$$

(4.b) State the profit-maximizing condition for HL and determine the optimal units of houses. Also, indicate the profit in the diagram, and explain how this profit can be derived.

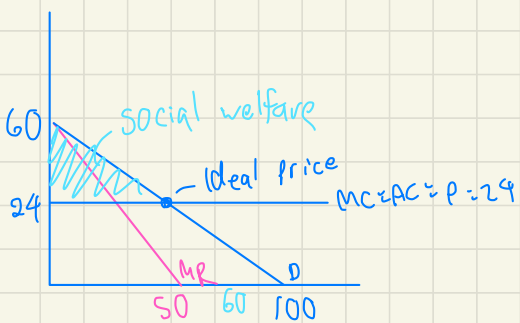


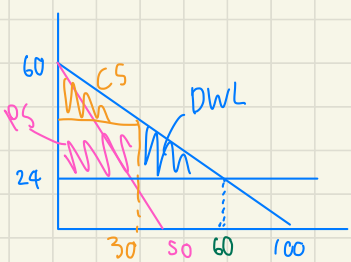
Profit is maximize when MC=MR

(4.c) The government tries to encourage more people to have access to luxury houses, so they launch a policy forcing HL to sell their houses at the ideal price. Draw another diagram to indicate the ideal price and determine the corresponding quantity at this price. Illustrate the social welfare before and after the intervention in the diagram and discuss.

(c) Ideal price is set $P = MC$

$$60 - 0.6Q = 24$$
$$36 = 0.6Q$$
$$Q = 60$$
$$P = 24$$





After ideal price, social welfare is higher because there is no DWL

Question (5) Consider this payoff matrix for Mook and Mix, they are competitors in an oligopoly sweetened product. Mook's payoff (bold) and Mix's payoff (regular) in this table is in thousand(s) baht unit. Discuss how you figure out a Nash equilibrium in this game.

		Mix		
		Boba tea (B)	Ice-cream (C)	Donut (D)
Mook	Boba tea (B)	**1** , 2	**3** , 5	**2** , 1
	Ice-cream (C)	**0** , 4	**2** , 1	**3** , 0
	Donut (D)	**-1** , 1	**4** , 3	**0** , 2

Nash equilibrium is 4,3 Donut, Ice-cream