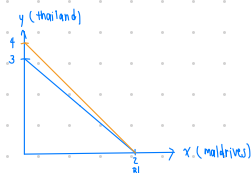


1. Neo loves traveling. Supposed he has two choices of destination, Thailand and Maldives which costs him 3,000 baht and 5,000 baht respectively. His utility received from traveling to Maldives is twice compared to traveling to Thailand. Answer the following questions.

Lee
630441506

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



2 units of Thailand
= 1 unit of Maldives

$$BL: 10,000 \geq 5,000x + 3,000y$$

$$x = 2$$

$$y = 3$$

slope of BL

$$MRMS_{xy} = \frac{\Delta y}{\Delta x} = \frac{P_x}{P_y}$$

$$= \frac{3,000}{5,000}$$

$$= \frac{3}{5} = 0.6$$

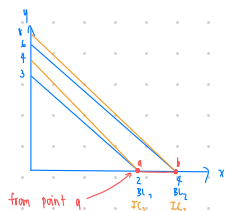
$$\frac{MU_x}{P_x} = \frac{MU_y}{P_y}$$

$$\frac{1}{3,000} < \frac{2}{5,000}$$

$$0.0003 < 0.0004$$

Since Maldives and Thailand are perfectly substitute, he will choose to travel in Maldives rather than Thailand because Maldives grants more utility than Thailand and he will spend all budget to travel 2 times in Maldives.

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



from point a.
to point b is
the income-consumption
curve

$$BL: 20,000 \geq 5,000x + 3,000y$$

$$x = 4$$

$$y = 6$$

$$MRMS_{xy} = \frac{\Delta y}{\Delta x} = \frac{P_x}{P_y}$$

$$= \frac{3,000}{5,000}$$

$$= 0.6$$

← slope is going to be the same because it goes up in the same ratio

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.

- a) (5 points) Calculate the marginal rate of technical substitution (MRTS) and 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?

$$MRTS_{LK} = \left| \frac{\Delta K}{\Delta L} \right| = \frac{MP_L}{MP_K}$$

$$= \frac{6}{8} = 0.75$$

$MP_L = \frac{6}{1}$ ← result in 6 units increasing in output
← adding 1 more labor

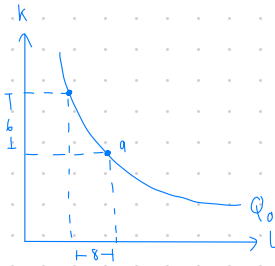
$MP_K = \frac{8}{1}$ ← result in 8 units increasing in output
← adding 1 more capital

$$MRTS_{LK} = \left| \frac{\Delta K}{\Delta L} \right| = \frac{w}{r}$$

$$\frac{6}{8} = \frac{3}{r}$$

$$\therefore r = 4$$

- b) (5 points) 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.

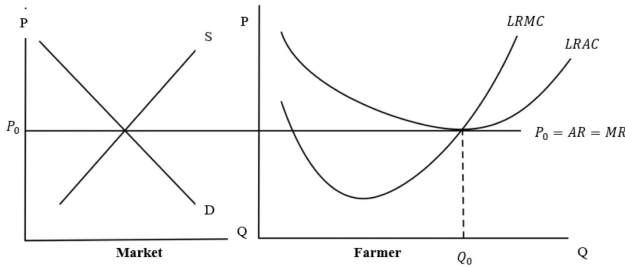


$$MRTS_{LK} = \left| \frac{\Delta K}{\Delta L} \right| = \frac{w}{r}$$

$$\frac{6}{8} = \frac{4}{r}$$

$$\therefore r = 5.33$$

3. A Thai rice farmer is in a long run equilibrium in a perfect competition and produces at the quantity Q_0 as shown in the graph below.

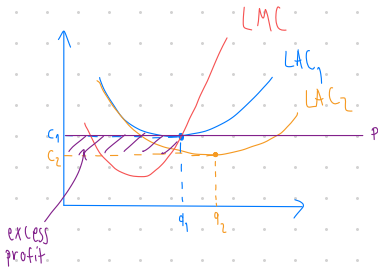


- a) The government grants a lump sum subsidy to every farmer. How will this change the LRAC? Explain why LRMC does not change.

LRAC is going to be lower but LRMC does not change because in granting lump sum subsidy does not affect total cost so LRMC is going to stay still.

- b) Will the lump sum subsidy change the quantity the farmer wants to produce to maximize his profit? Show in the graph that the farmer now earns an Excess Profit. Explain.

Farmer will not try to maximize profit because they already got a subsidy and if they still try to maximize profit, it will affect market.



- c) Demonstrate how this Excess Profit will affect the market price in the Long Run that allows new entry to the market.

When other saw that there is an excess profit they will enter the market then supply will shift up and makes market price decrease.

4. An inverse demand function in a monopoly market is given by

$$P = 100 - 5Q$$

Supposed that the monopolist is very efficient, which gives a constant marginal cost of \$20, answer the following questions.

- a) How many units of this product will be produced that maximizes monopolist's profit in the short-run? Also, how much does this product cost? Show your argument clearly.

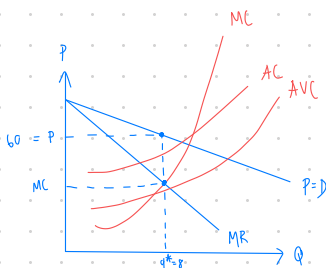
$$\begin{aligned} MC &= 20\$ \\ \text{Maximize profit} \\ MR &= MC < P \\ TR &= P \cdot Q = (100 - 5Q) \cdot Q \\ &= 100Q - 5Q^2 \end{aligned}$$

$$MR = \frac{dTR}{dQ} = 100 - 10Q$$

$$100 - 10Q = 20\$$$

$$10Q = -80$$

$$Q = 8$$



$$\begin{aligned} \text{put } Q \text{ into the equation} \\ P &= 100 - 5(8) \\ &= 100 - 40 = 60 \end{aligned}$$

8 units of product is maximize monopolist's profit in short run.
This product cost 60\$

- b) How much is the total variable cost when the monopolist's profit is maximized?

$$MC = \frac{\Delta TVC}{\Delta Q}$$

$$20 = \frac{\Delta TVC}{8}$$

$$160 = TVC$$

- c) If this monopolist has a fixed cost of \$160, how much is the monopolist's profit?

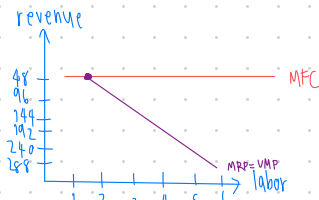
$$\begin{aligned} \text{profit} &= TR - TC \\ &= (P \cdot Q) - (TFC + TVC) \\ &= 480 - (160 + 160) \\ &= 480 - 320 \\ &= 160 \end{aligned}$$

5. Assumed both a product market and a labor market are perfectly competitive, a table of marginal product is given below.

	Unit of labor	Marginal product of labor MP	$MR = P$	MRP	VMP	$MFC = \frac{\Delta TFC}{\Delta L}$
9						
12	2	12		144	144	
20	3	8	12	96	96	
26	4	6		72	72	48
30	5	4		48	48	
32	6	2		24	24	

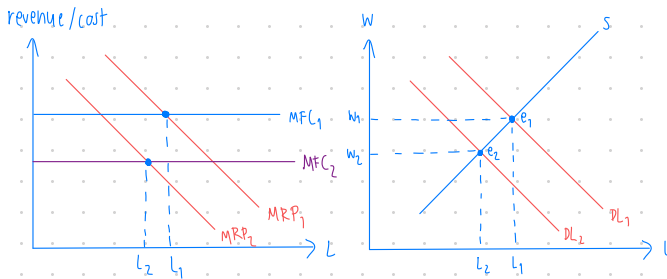
This product can be sold in the market for \$12 each while labor wage is \$48, answer the following questions clearly.

- a) Figure out how many units of labor this firm will choose as input for its production to maximize profit. Illustrate a graph to support your answer and explain.



at $MRP = MFC$ the firm will get maximize profit
so the firm should hire 1 labor.

- b) Supposed that there is a sudden economic recession driving consumers' purchasing power downward, what would happen to the units of labor hired by this firm? Support your answer with illustrations that also show a connection between product market and labor market.



The economic recession driving consumer's purchasing power downward, so firm will reduce cost of production by lower demand labor. This reason makes wage lower or move to new equilibrium ($e_1 \rightarrow e_2$), and MFC also lower to MFC_2 . MFC_2 and MRP_2 intersect at L_2 , which is new equilibrium of labor of this firm.

6. Consider these statements and indicate which one of the choices fits with each statement and roughly explain why.

Choices:

1. Not a market failure
2. Market power
3. Externalities
4. Public goods
5. Moral hazard
6. Adverse selection

a) People feel that price level is hiking.

not a market failure because economic situation efficient distribution of goods and services in the free market.

b) Morpheus always hears a loud fight coming from a room next to his.

externalities because the loud fight affects the next room.

c) Trinity does not receive her full-benefit until her first 3-month of her work position.

moral hazard because the employee has to pay full-benefit until but they didn't follow the contract.

d) In Chiang Mai, there is no earthquake alarming system.

public goods because earthquake alarming system is used with all Chiang Mai citizens.

e) Starbucks coffee is more expensive than Amazon coffee.

market power because Starbucks coffee is high quality coffee which in oligopoly but Amazon coffee lives in competitive market.