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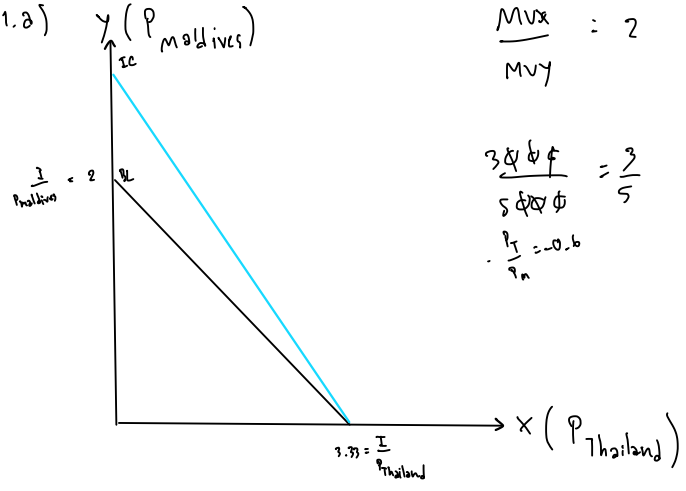
(1.a)



$\frac{MUx}{MUy} = 2$

$\frac{3 \text{ ฿ ต่อ}}{5 \text{ ฿ ต่อ}} = \frac{3}{5}$

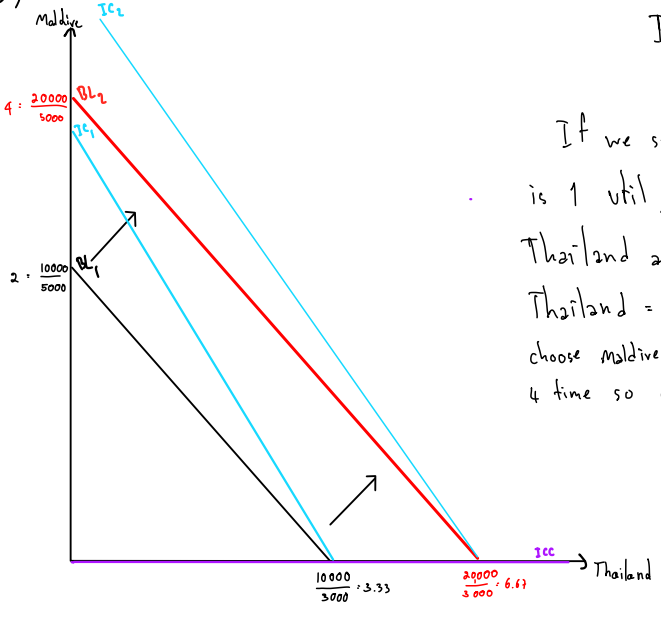
$\frac{P_T}{P_m} = 0.6$

As I choose Thailand is the destination everytime, the utility that I get is 3.33 util but if I choose Maldives is the destination everytime, the utility that I get is 4 util following from the text which is utility received from traveling to Maldives is twice compared to traveling to Thailand.

(1.b)

before | after

I = 10,000 | I' = 20,000



If we suppose that utilities for going Thailand is 1 util, Maldive is 2 util if we choose Thailand as a destination we can go to Thailand = 6.67 time so utility is 6.67 if we choose Maldive as a destination we can go to Maldive 4 time so our utility is 8.

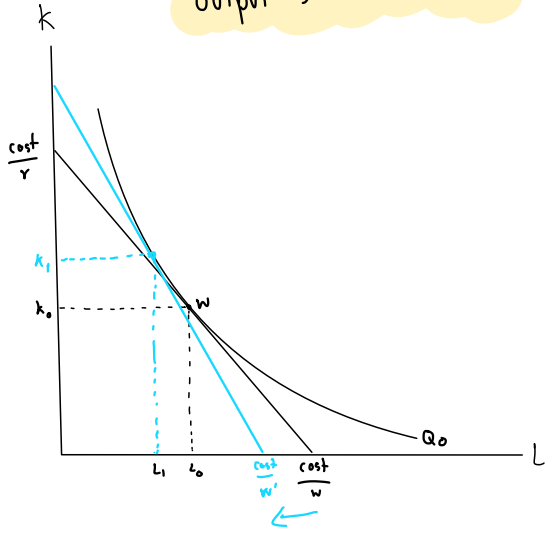
(2.a)

When wage rate (w) is equal to 3, to minimize the cost, the slope Isoquant must be equal to Isocost. Therefore, slope of Isoquant is equal to MRTS and slope of Isocost is $-\frac{w}{r}$. MRTS is $-\frac{MP_L}{MP_K} = -\frac{w}{r}$ from the question given $\frac{MP_L}{MP_K} = \frac{w}{r}$

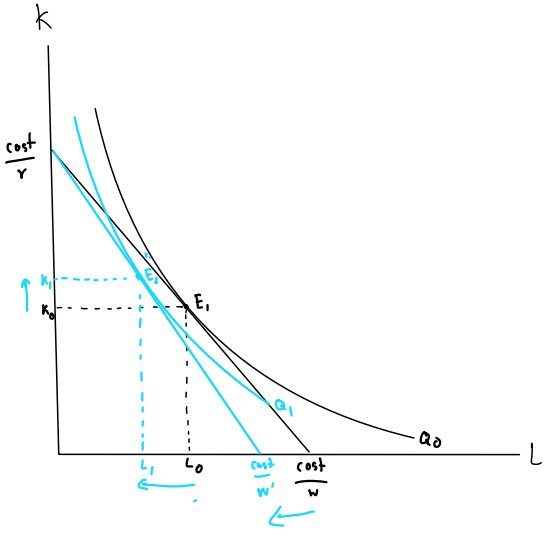
$\therefore \frac{6}{8} = \frac{3}{r}$, r is equal to 4.

(2.b) $w = 3$, $w' = 4$

output is fixed at Q_0



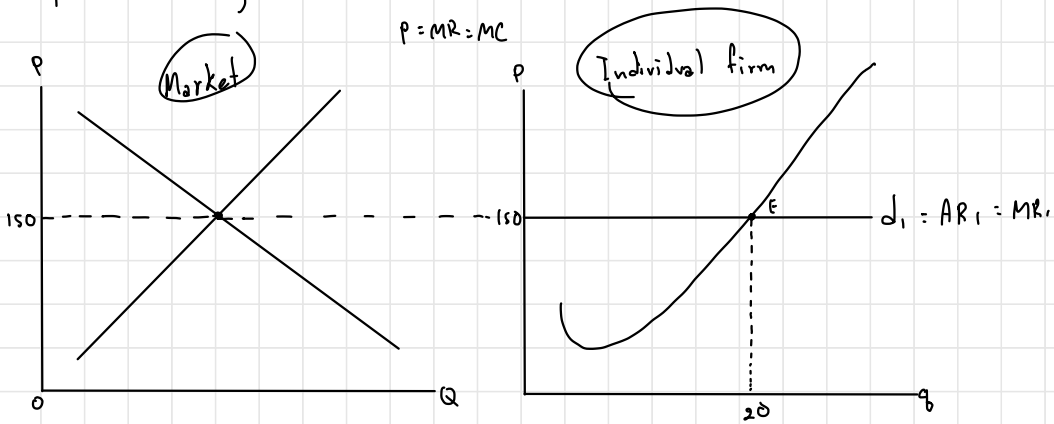
output change from Q_0 to Q_1



(3.a) $P = 150$ $q = 20$

profit maximizing condition in the short run

$P = MR = MC$



To maximize profit, each firm in a competitive produce at $P = MR = MC$. The profit maximize output is equal to 20 units and each firm set price at 150 bath per unit.

(3.b) $AC = 180$, $AFC = 60$

$AC = AFC + AVC$

$180 = 60 + AVC$

$AVC = 120$

Total Revenue = Price · Quantity

$TR = P \cdot q$

$TR = 150 \cdot 20$

$TR = 3000$ bath

$TC = AC \cdot q$

$TC = 180 \cdot 20$

$TC = 3600$ bath

$\Pi = TR - TC$

$\Pi = 3000 - 3600$

$\Pi = -600$

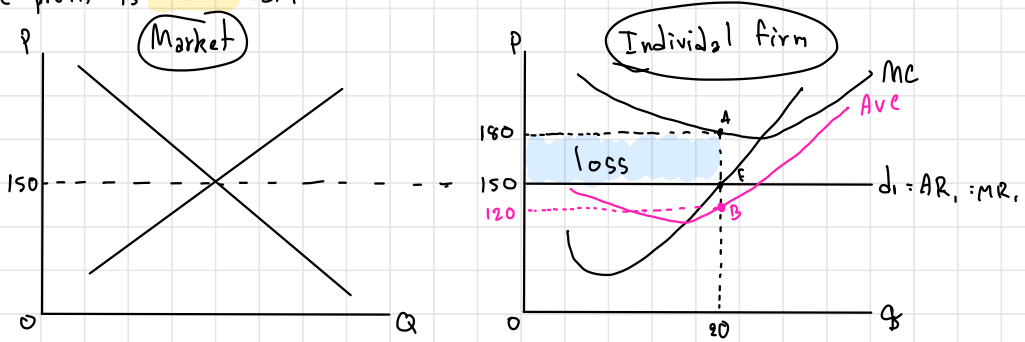
loss $= 600$ bath

∴ The average variable cost is equal to 120 bath

The total revenue is 3000 bath

The total cost is 3600 bath

The profit is -600 bath



3.c)

This firm remains stay in the market in the short run because the market price still more than the average variable cost ($P > AVC$) and the total revenue still cover the variable cost

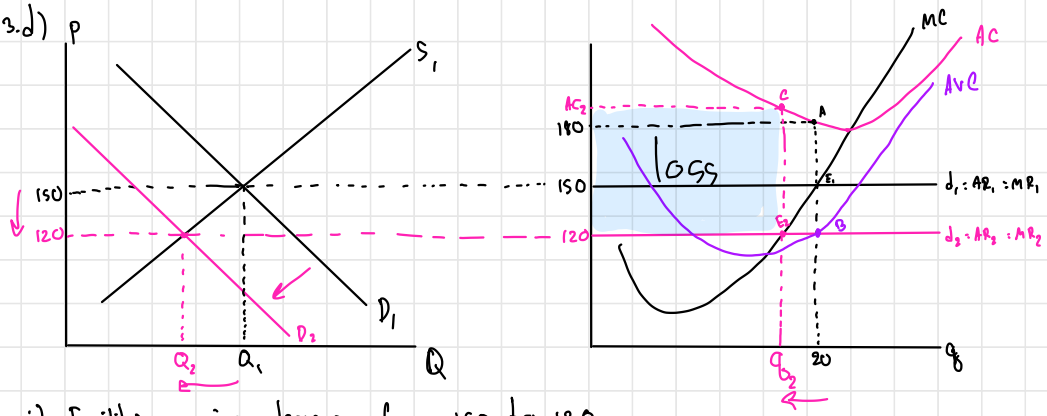
$P > AVC$

$P \cdot q > AVC \cdot q$

$TR > VC$

The reason that the firm will be stuck will all its fixed cost and have no revenue if it shut down, so its loss will equal its fixed cost. If it continues to produce, however, and revenue is greater than variable costs, so its loss is less than it would be if it shut down.

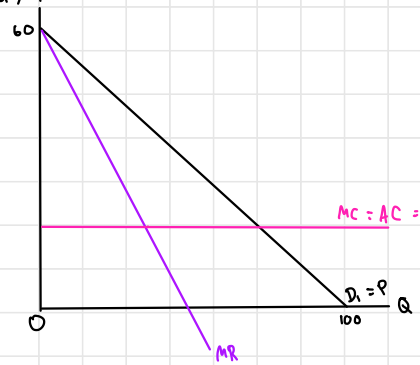
3.d)



i) Equilibrium price decrease from 150 to 120
Equilibrium quantity decrease from Q_1 to Q_2

ii) Firm equilibrium decrease from 20 to q_{f2} and more loss

4.a) P



$TR = (P) \cdot Q$

$TR = (60 - 0.6Q)Q$

$TR = 60Q - 0.6Q^2$

$MR = \frac{dTR}{dQ}$

$= \frac{d(60Q - 0.6Q^2)}{dQ}$

$MR = 60 - 1.2Q$

slope of Demand equal -0.6

slope of MR equal -1.2

slope of MC/AC equal 0

from question $MC = AC = 24$

4.b) $\Pi = TR - TC$

to maximize profit $MR = MC$

$\frac{d\Pi}{dQ} = \frac{dTR}{dQ} - \frac{dTC}{dQ}$

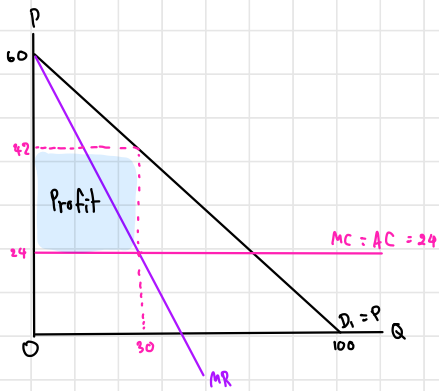
$0 = MR - MC$

Therefore, $MR = MC$ from 4.a) $MR = 60 - 1.2Q$

$MC = 24$

Hence, $MR = MC$, $60 - 1.2Q = 24$

$Q = 30$



From the question $p = 60 - 0.6Q$ at $Q = 30$ then, $p = 42$

$AC = \frac{TC}{Q}$ therefore, $\frac{TC}{Q}$

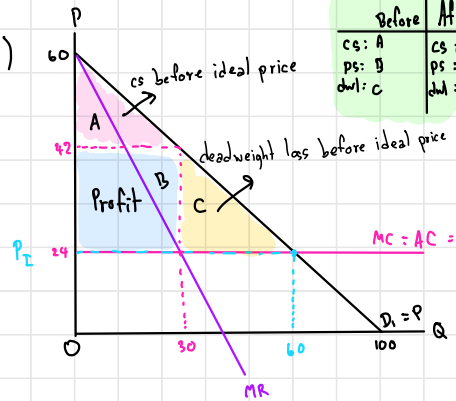
$TR = P \cdot Q = 42(30) = 1260$

$TC = AC(Q) = 24(30) = 720$

$\Pi = TR - TC = 1260 - 720 = 540$

∴ Profit is 540 million bath

4.c)



Before	After
cs: A	cs: A+B+C
ps: B	ps: -
dwl: C	dwl: -

Before intervention the consumer surplus is $\frac{1}{2} \times 8 \times 18 = 72$. the producer surplus is $18 \cdot 6 = 108$. Socail welfare is CS+PS = $72(108) = 7776$. Deadweight loss is $\frac{1}{2} \times 30 \times 18 = 270$.

After intervention the consumer surplus is C + A + B = $\frac{1}{2} \times 36 \times 60 = 1080$. the producer surplus is none (0). Socail welfare is CS+PS = $1080 + 0 = 1080$. Deadweigh loss is none.

5.

Find the Nash equilibrium

Given producer Mook chooses Donut, best response of producer Mix is Ice-cream.
Given producer Mix chooses Ice-cream, best response of producer Mook is Donut.
Hence, the Nash equilibrium is (Donut, Ice-cream)

Find the dominant strategy of producer Mix

If the producer Mix chooses Boba tea, producer Mook will chooses Boba tea (1>0>-1)
If the producer Mix chooses Ice-cream, producer Mook will chooses Donut (4>3>2)
If the producer Mix chooses Donut, producer Mook will chooses Ice-cream (3>2>0)

Producer Mook does not have dominant strategy because producer Mook not choose only one strategy

Find the dominant strategy of producer Mook

If the producer Mook chooses Bobatea, producer Mix will chooses Ice-cream (5>2>1)
If the producer Mook chooses Ice-cream, producer Mix will chooses Boba tea (4>1>0)
If the producer Mook chooses Donut, producer Mix will chooses Ice-cream (7>2>1)

Producer Mix does not have dominant strategy because producer Mix not choose only one strategy