1.a) • $MRTS = \frac{MP_L}{MP_K} = \frac{\Delta K}{\Delta L}$

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

• The cost-minimization condion : MRTS = MRMS

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

• $w = 3$ , $r = ?$

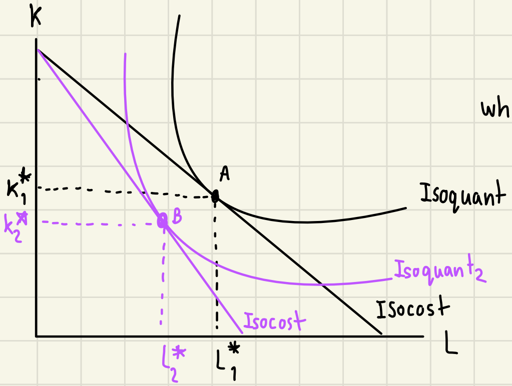
$\frac{MP_L}{MP_K} = \frac{w}{r}$

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

$r = \frac{24}{6}$

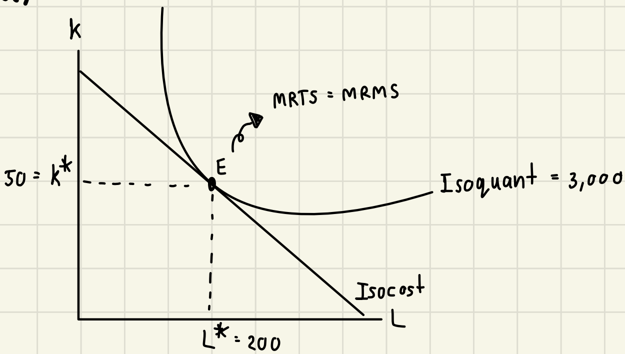
$r = 4$ #

1.b)




when w↑ , L will decrease.

2.a)




Cost-minimization condition: MRTS = MRMS

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

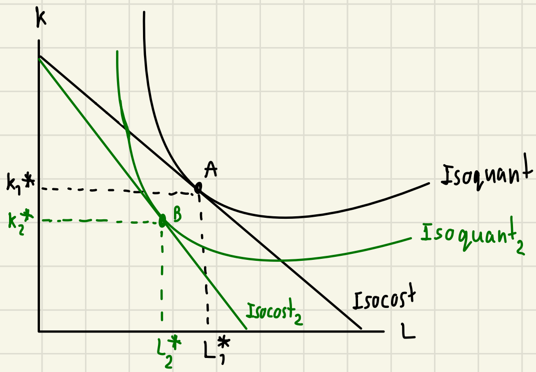
2.b)

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

$$\frac{MP_L}{8} = \frac{10}{20}$$

$$MP_L = 4 \#$$

2.c)

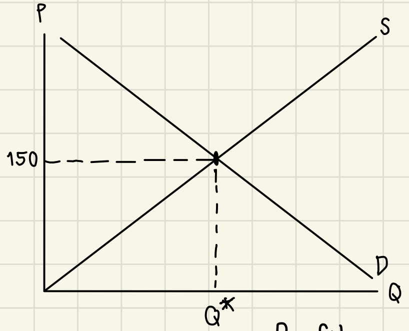



2.d) • Short-run production, there is at least one fixed factors.
↳ has fixed and variable factors.

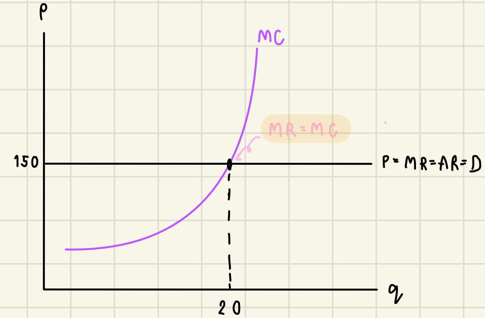
• Long-run production has only variable factors, no fixed factors.

3.a)

Market




a firm




Profit - maximizing condition : MR = MC

3.b) ATC = 180 , AFC = 60

ATC = AVC + AFC

180 = AVC + 60

AVC = 120 #

TC = ATC × Q

= 180 × 20

TC = 3,600 #

TR = P × Q

= 150 × 2

TR = 3,000 #

Profit = TR − TC

= 3,000 − 3,600

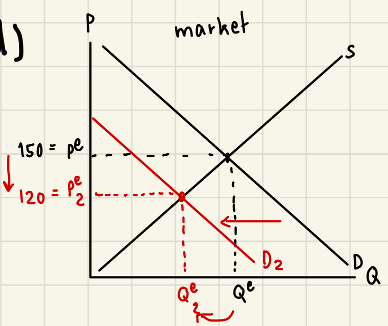
Profit = −600 #

3.c) • From 3.b) , AVC = 120 , P = 150

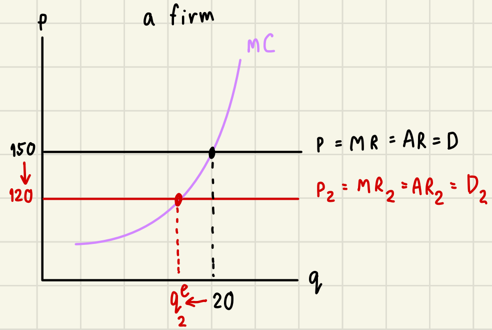
when the price is still more than AVC , that difference between price and AVC can be used to compensate for the fixed cost that you have to pay. So, this firm should stay in the market in the short run.

3.d)

market



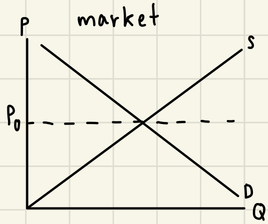

a firm

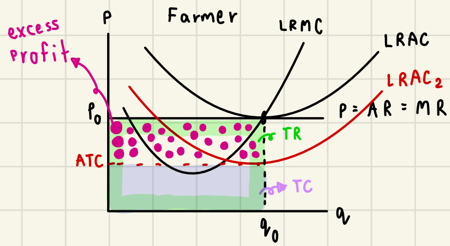



• When the market demand decreases and the market price decreases from 150 to 120 baht per unit, the firm equilibrium quantity and profit will also decreases. Now P = AVC so whether this firm produces up to $q^e_2$ or produces nothing is not different.

4.A) • A lump sum subsidy lowers fixed cost. Lower fixed cost reduces TC. When TC decreases, ATC will decline, reducing the LRAC. However, LRMC does not change because LRMC will only change when the variable cost changes.

4.b) No, because the lump sum subsidy will change LRAC, not LRMC.
The profit maximization : MC = MR
When the price and the MC do not change, the quantity the farmer wants to produce to maximize his profit will stay the same at $q_0$.

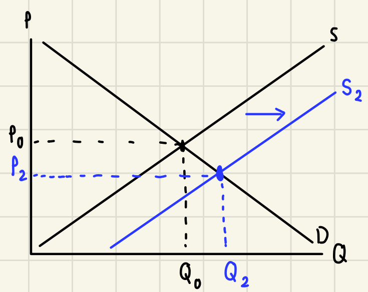


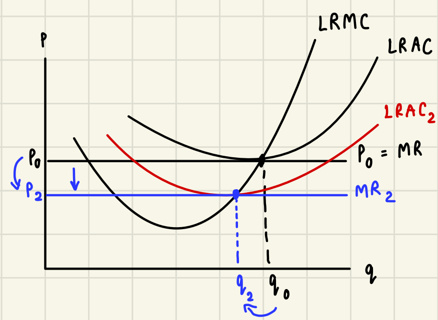




TC = ATC × q    TR = P · q
Profit = TR - TC

∴ The difference between TR and TC is an excess profit.

4.C) • An excess profit will attract other farmers to enter the market. New farmers in the market will increase market supply. When there is an increase in supply, the price will fall to a lower equilibrium price from $P_0$ to $P_2$. The lower price will decrease the profit. In the long run, this process will repeatedly occur untill the profit = 0.

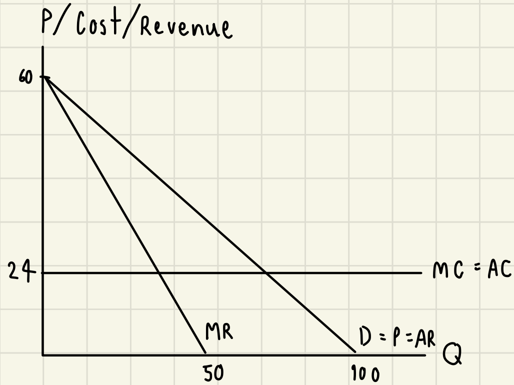


**5. A)** $MR = \dfrac{dTR}{dQ}$

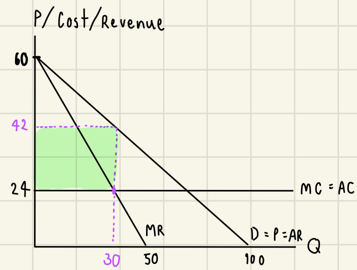
$$TR = (60 - 0.6Q)\,Q$$
$$TR = 60Q - 0.6Q^2$$
$$MR = \frac{dTR}{dQ} = 60 - 1.2Q$$

$\therefore MR = 60 - 1.2Q$




**5. B)** Profit-maximizing condition : $MR = MC$

$$60 - 1.2Q = 24$$
$$Q^* = 30 \text{ units of houses}$$




$P^* = 60 \times 0.6(30)$

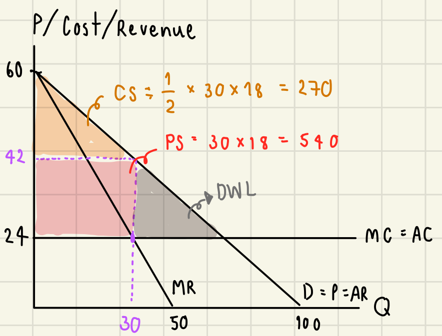
$P^* = 42$

Profit $= TR - TC \; [(42 \times 30) - (24 \times 30)]$

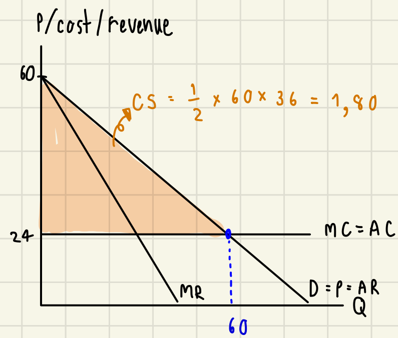
$= 540$

**5. C)** Ideal price : $P = MC$

Before intervention

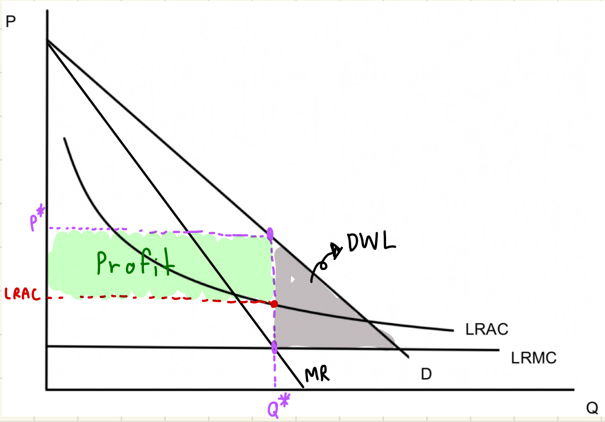



After intervention




$\therefore$ After intervention, the social welfare increases.

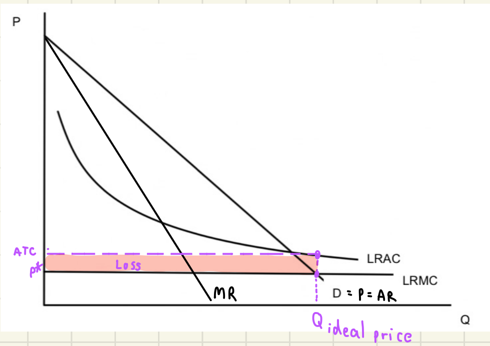
6. a)




The equilibrium condition : MR = MC

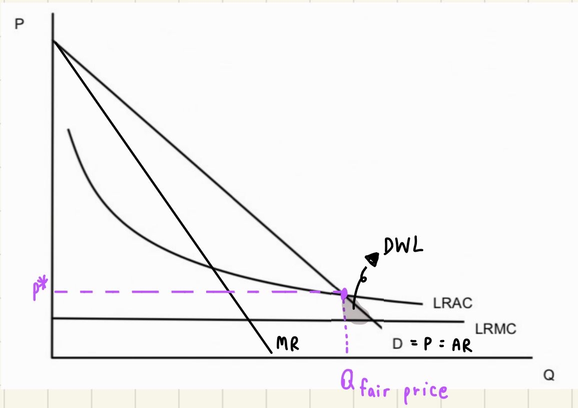
6. b) Lerner's index $= \frac{P - MC}{P} = \frac{50 - 10}{50} = \frac{4}{5} \approx 0.8$ #

6. c) Ideal price : P = MC




∴ When LRAC > P, it will have a loss.

6. d) Fair price : P = AC




There is still a deadweight loss at this fair price, but a deadweight loss is less than before using fair price.