Exercise 1

1. You are considering the number of hamburgers that you plan to order. Based on the following table, complete the table and answer the following questions.
   a. How many units of hamburgers should you order? Why? 3rd unit b/c you still have the Marginal benefit at 20
   b. Suppose you decide to order 2 hamburgers. Is this underallocation or overallocation? Explain. How much is your deadweight loss? It is underallocation, the DWL is 40 + 20 = 60
   c. Suppose you decide to order 5 hamburgers. Is this underallocation or overallocation? Explain. How much is your deadweight loss? It is overallocation, the DWL is 0

MB - MC

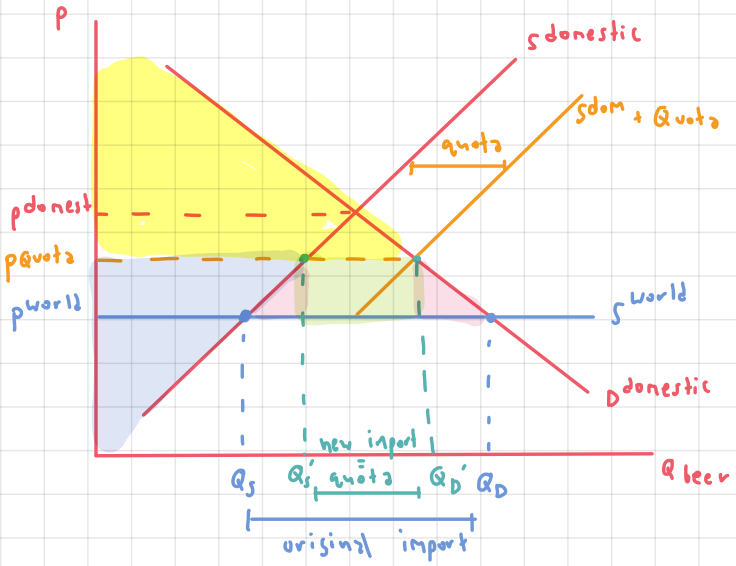
Quantity	Total Benefit	Marginal Benefit	Total Cost	Marginal Cost	Total Net Benefit
1st	80	80	20	20	60
2nd	140	60	40	20	40
3rd	160	40	60	20	20
4th	180	20	80	20	0
5th	180	0	100	20	-20

2. With diagrams, explain the differences between tariff and quota. Also, explain the impact on domestic stakeholders (consumers, producers, and government), i.e., who is better off and who is worse off? Why?
3. Consider an exporting country. Analyze welfare effect on all stakeholders when its government impose "Export Tax", i.e., per-unit tax imposed on the exported good. Draw a diagram(s) and provide complete analysis on who gain(s) and who lose(s).
4. A "small", open economy is engaging in international trade. Its domestic demand curve is given by P = 100 – Q and its domestic supply curve is given by P = Q. The world price of the good is 20$. Answer the following questions.
   a. What does it mean for a country to be "small"? What implication of being "small" has on the world supply curve?
   b. Is this economy either an exporting or important country? Why? How many units of the goods is the country is currently importing or exporting?
   c. Now suppose the government decides to intervene. If the country is importing, the government will impose import tariff of 10$ per unit. If the country is exporting, the government will impose export subsidy of 10$ per unit. Calculate
      i. Domestic consumer and producer surplus after the intervention
      ii. Either subsidy cost or tariff revenue
      iii. Deadweight loss from the intervention.

2. With diagrams, explain the differences between tariff and quota. Also, explain the impact on domestic stakeholders (consumers, producers, and government), i.e., who is better off and who is worse off? Why?

(2) Quota : limit on imports

1) government gets a limit of how much can be imported
2) government issues "import licence" to firms, usually foreign firms.
3) these license allows the holders to buy goods abroad at P_{world} & sell them in the domestic mkt at higher price, making money



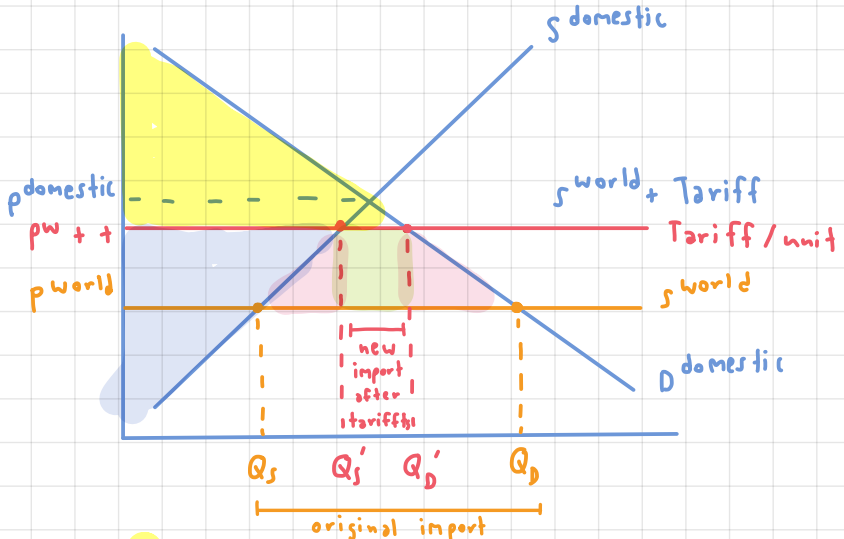
Quota limit amount of goods to be brought into domestic economy. Then gov. allow people to trade according to mkt force which increase the price to P_{Quota}

At P_{Quota}, domestic producers produce at Q_S', while domestic consumer buy at Q_D'.
Thus, $Q_D' = Q_S' + Quota$

Thus, quota make producer better off and consumer worse off because producer will be able to buy goods abroad at P_{world} & sell at higher price which is P_{quota} which making consumer to face the higher price so they buy less.

Quota Revenue, earned by licence olders who buy goods at P_W and sell at P_{Quota}
= DWL

Tariff : increase the import price, shifting the S^{world}
This allow more domestic producers to compete against foreign producers.

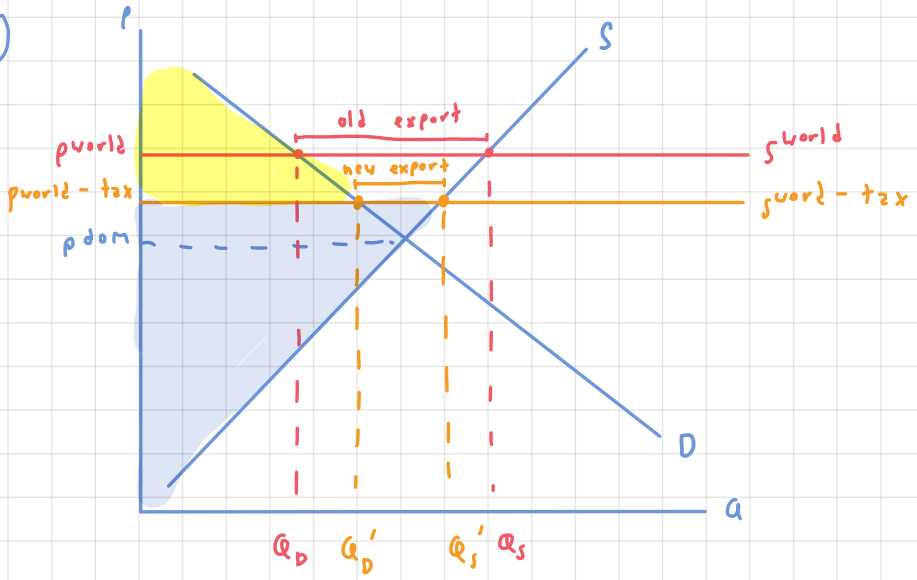


With Tariffs
producer and government will better off and consumer will worse off
↳ consumer pay more so they buy less (CS↓)
↳ producer sell at higher price, so they produce more (PS↑)
↳ Gov get tariffs revenue of (new import × tariff / unit) are DWL

: CS
: PS
: DWL
: Gov revenue = $Q_{new\ import} \times tariff/unit$

3. Consider an exporting country. Analyze welfare effect on all stakeholders when its government impose "Export Tax", i.e., per-unit tax imposed on the exported good. Draw a diagram(s) and provide complete analysis on who gain(s) and who lose(s).

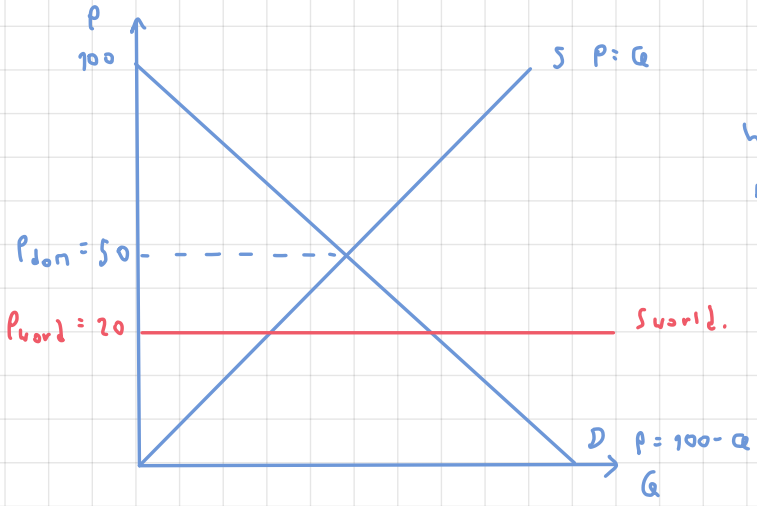
(3)



Consumer will be better off but producer will be worse off because consumer can buy more at the lower price so consumer surplus will increase. At the same time, producer sell at the lower price so they produce less leading to the decreasing of producer surplus.

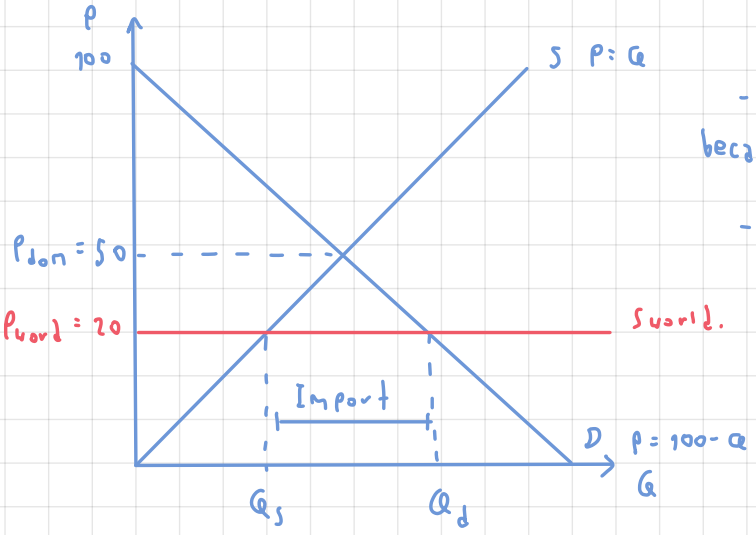
4. A "small", open economy is engaging in international trade. Its domestic demand curve is given by P = 100 – Q and its domestic supply curve is given by P = Q. The world price of the good is 20$. Answer the following questions.

   a. What does it mean for a country to be "small"? What implication of being "small" has on the world supply curve?



When domestic price (P_{dom}) is higher than the world supply curve means that this country is import country.

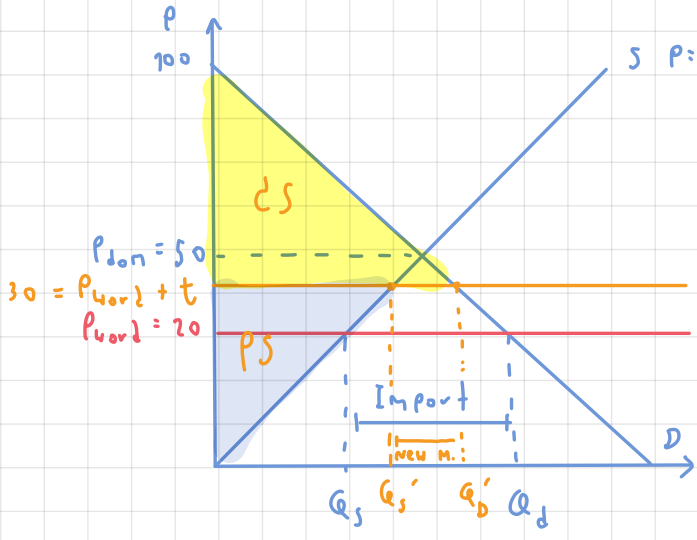
   b. Is this economy either an exporting or important country? Why? How many units of the goods is the country is currently importing or exporting?



- This economy is importing country because $P_{domestic}$ is higher than P_{world}
- Then import from abroad = $Q_d - Q_S$
  = 80 - 20
  = 60 units #

   c. Now suppose the government decides to intervene. If the country is importing, the government will impose import tariff of 10$ per unit. If the country is exporting, the government will impose export subsidy of 10$ per unit. Calculate

      i. Domestic consumer and producer surplus after the intervention



$CS = \frac{1}{2} \times Q_D' \times 70$

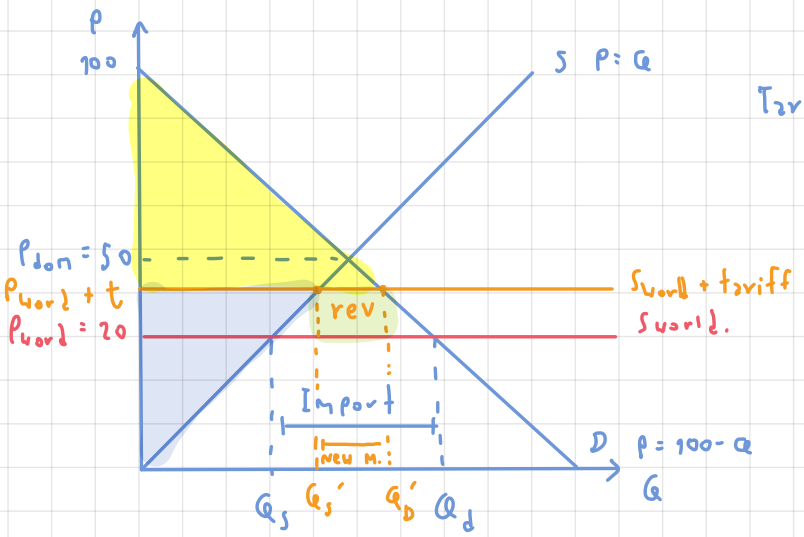
$= \frac{1}{2} \times 70 \times 70$ (35)

$= 2450$ #

$PS = \frac{1}{2} \times Q_S' \times 30$

$= \frac{1}{2} \times 30 \times 30 = 450$ #

ii. Either subsidy cost or tariff revenue



Tariff revenue = $Q_{new\ import} \times tariff/unit$

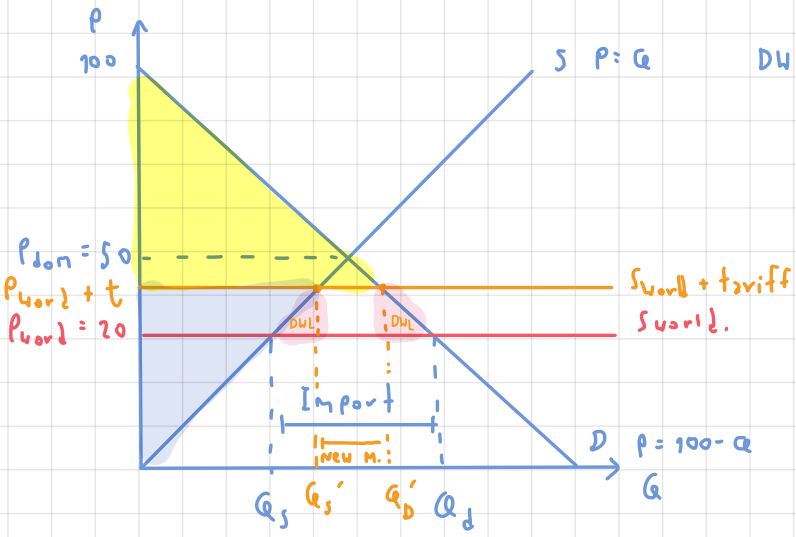
$= (Q_D' - Q_S') \times 10$

$= (70 - 30) \times 10$

$= 40 \times 10$

$= 400$ #

iii. Deadweight loss from the intervention.



$DWL = \left[\frac{1}{2} \times (Q_S' - Q_S) \times 10\right] \times 2$

$= \left(\frac{1}{2} \times 10 \times 10\right) \times 2$

$= 100$ #