

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?
  - b. Suppose you decide to order 2 hamburgers. Is this underallocation or overallocation? Explain. How much is your deadweight loss?
  - c. Suppose you decide to order 5 hamburgers. Is this underallocation or overallocation? Explain. How much is your deadweight loss?

Quantity	Total Benefit	Marginal Benefit	Total Cost	Marginal Cost	Total Net Benefit
1 <sup>st</sup>		80		20	
2 <sup>nd</sup>		60		20	
3 <sup>rd</sup>		40		20	
4 <sup>th</sup>		20		20	
5 <sup>th</sup>		0		20	

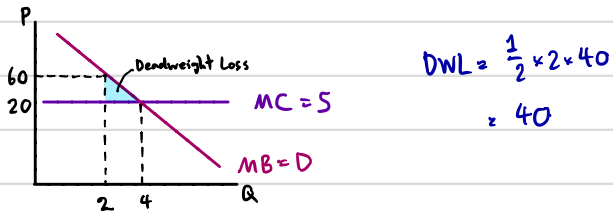
2. With diagrams, explain the differences between tariff and quota. Also, explain the impact on domestic stakeholders (consumers, producers, and government), i.e., who is better off and who is worse off? Why?
3. Consider an exporting country. Analyze welfare effect on all stakeholders when its government 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.

1. a)

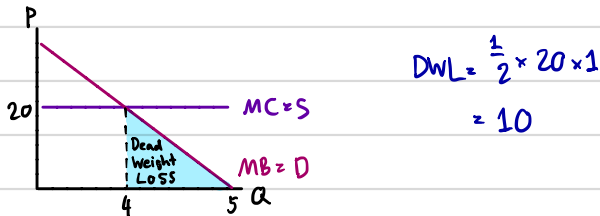
Quantity	Total Benefit	Marginal Benefit	Total Cost	Marginal Cost	Total Net Benefit
1 <sup>st</sup>	80	80	20	20	60
2 <sup>nd</sup>	140	60	40	20	100
3 <sup>rd</sup>	180	40	60	20	120
4 <sup>th</sup>	200	20	80	20	120
5 <sup>th</sup>	200	0	100	20	100

4 units because Total Net Benefit begins to decline at 5<sup>th</sup> unit.

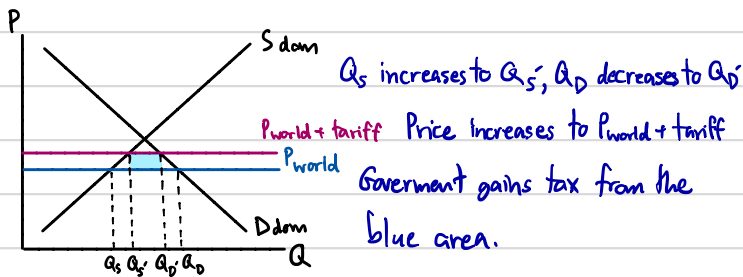
b) Underallocation because MB (demand) is more than MC (supply)  
So, there is lack of supply to fulfilled the overdemand.



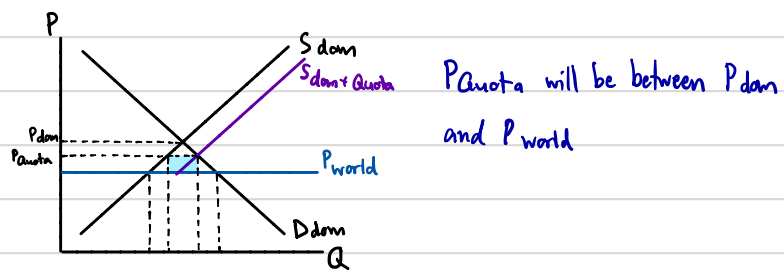
c) Overallocation because MB (demand) is less than MC (supply)  
So, there is supply that was produced and has not enough demand for it.



2. Tariff is tax on imported goods to help domestic producers compete with foreign producers.

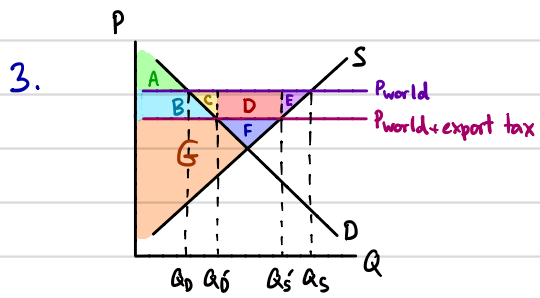


Quota is the limit amount of goods that can be imported by the firms



Consumers: Worse off because they have to pay more  
Producers: better off because they can sell at the higher price  
Government: better off because they can collect tax from the tariff

Consumers: Worse off because they have to pay more expensive.  
Producers: Better off because they can buy at P\_world and sell at P\_quota and receive quota revenue (blue area)  
Government: Better off

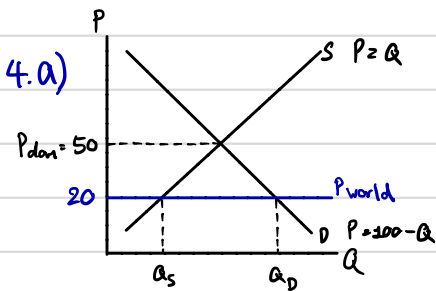


	Before	After	Change
CS	A	A+B	B
PS	B+C+D+E+F+G	E+G	-B-C-D-F
Gov	$\phi$	D	D
TS	A+B+C+D+E+F+G	A+B+D+E+G	-C-F

Consumers: Better off because export tax lowers the price of goods and services

Producers: Worse off because they have to lower the sale price.

Government: better off because they receive revenue from tax.



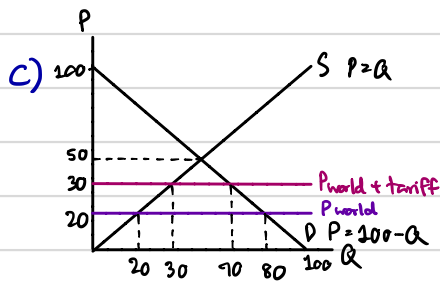
Being small country means that its import changes won't affect the world, and world price won't be affected from what small country does.

b) Import country because  $P_{world} < P_{dom}$ , so people will prefer to buy imported goods more because they're cheaper.

Amount of import;  $Q_d - Q_s$  at  $P_{world} = \$20$

$$\begin{aligned}
 P &= 100 - Q_d & P &= Q_s \\
 20 &= 100 - Q_d & 20 &= Q_s \\
 Q_d &= 80
 \end{aligned}$$

Import =  $80 - 20 = 60$  units



i) $P_{dom} \rightarrow P = 100 - Q ; P = Q$	New $Q_s \rightarrow P = Q_s$	New $Q_d \rightarrow P = 100 - Q_d$
$P = 100 - P$	$Q_s = 30$	$30 = 100 - Q_d$
$P = 50$		$Q_d = 70$
$CS = \frac{1}{2} \times 70 \times (100 - 30)$	$PS = \frac{1}{2} \times 30 \times 30$	
$= 2,450 \#$	$= 450 \#$	

ii) Tariff revenue =  $(70 - 30)(30 - 20)$   
 $= 400 \#$

iii) DWL =  $\frac{1}{2} (20)(20) \times 2$   
 $= 100 \#$