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 = ΔQ · Marginal Bene	Marginal Benefit = ΔTB/ΔQ	Total Cost = ΔQ · Marginal cost	Marginal Cost = ΔTC/ΔQ	Total Net Benefit	
1st	80	80	20	20	60	✓
2nd	120	60	40	20	40	✓
3rd	120	40	60	20	20	✓
4th	80	20	80	20	0	
5th	0	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.

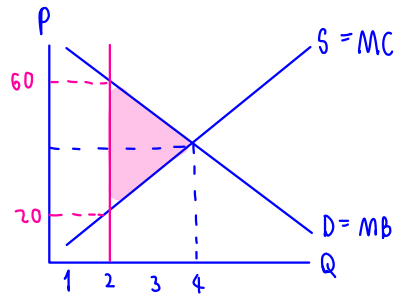
a. How many units of hamburgers should you order? Why?

You should order at 1st, 2nd, 3rd, 4th unit of hamburger because the marginal benefit of these units are greater or equal to marginal cost which means that you should continue to order.

b. Suppose you decide to order 2 hamburgers. Is this underallocation or overallocation? Explain.

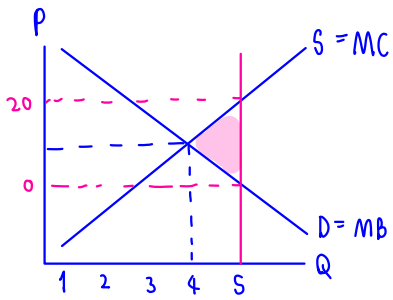
How much is your deadweight loss?

this is underallocation because their marginal benefit is greater than marginal cost which means that you have too few hamburgers and may starve. DWL = $\frac{1}{2}(2 \times 20) = 20$



c. Suppose you decide to order 5 hamburgers. Is this underallocation or overallocation? Explain.

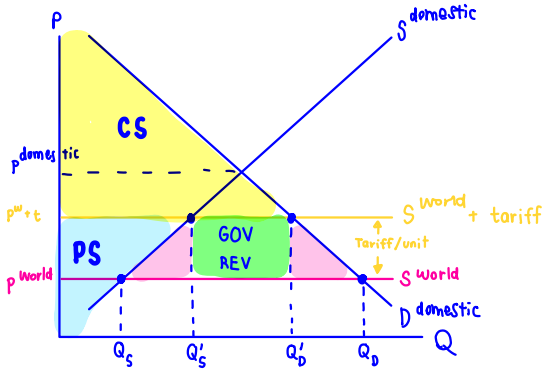
How much is your deadweight loss?



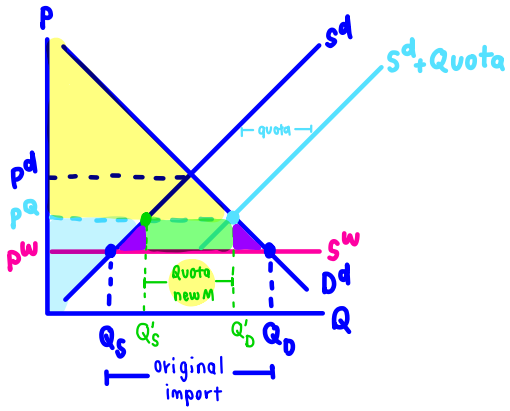
This is overallocation because its marginal benefit is lower than marginal cost which means that you have too many hamburgers to eat and may get obesity.

DWL = $\frac{1}{2} \times 1 \times 10 = 5$

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?



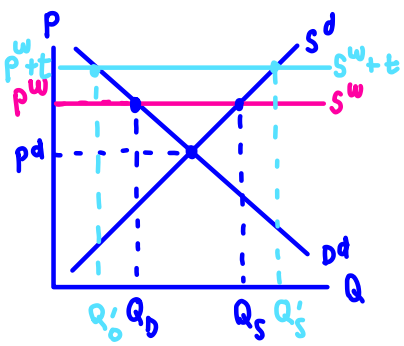
Tariffs increase the import price, shifting the S^w upwards. This allows more domestic producers to compete against producers. Then, consumers will pay more so they buy less and consumer surplus becomes lower. Production sell at higher prices so they produce more and producer surplus becomes higher. Moreover, government gets tariffs revenue at new import × tariff/unit and DWL at ● area.



Quota limits amount of goods to be brought into domestic economy. Then gov. allows people to trade according to market force which increase the price to P^Q. At P^Q, domestic producers can produce at Q'_S, which domestic consumers by at Q'_D. Thus, $Q'_D = Q'_S$ + Quota. Quota revenue, earned by licence holders who buy goods at P^W and sell at P^Q. Quota revenue may become DWL if licence holders are foreign firms which is ● area.

consumer, producers, gov.

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).



After the gov. imposed 'Export Tax', this increases export price, shifting the S^w upwards. This allows domestic consumers to compete against foreign consumers. Consumers pay more so they buy less and consumer surplus becomes lower. Producers sell at higher price so they produce more, producer surplus becomes higher. Government gets tax revenue of impose the tax with new export × tax/unit.

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?

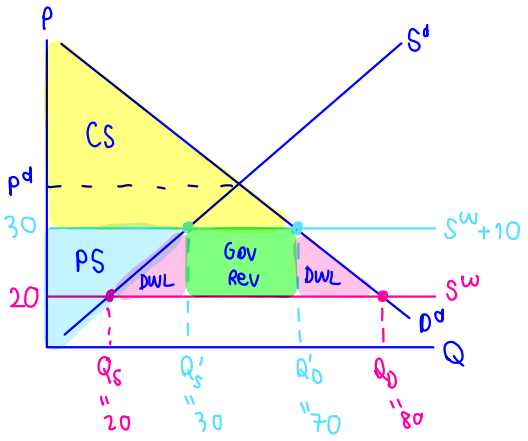
Small country or economy means that it does not affect the world. For example, How much it buys or sells does not affect the world price. Small economy has horizontal world supply curve Since the world can supply the good at P^w as much as the small country wants to buy.

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?

No, the small country is an importing country as their domestic price is higher than world price which means that the country is not good at making the good so they import goods instead by currently importing 60 units of goods.

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.



i) Consumer Surplus : $\frac{1}{2} \times 70 \times (100-30) = 2450$

Producer Surplus : $\frac{1}{2} \times 30 \times 30 = 450$

ii) tariff revenue = new import × tariff/unit

$= 40 \times 10$

$= 400$

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

$= 100$