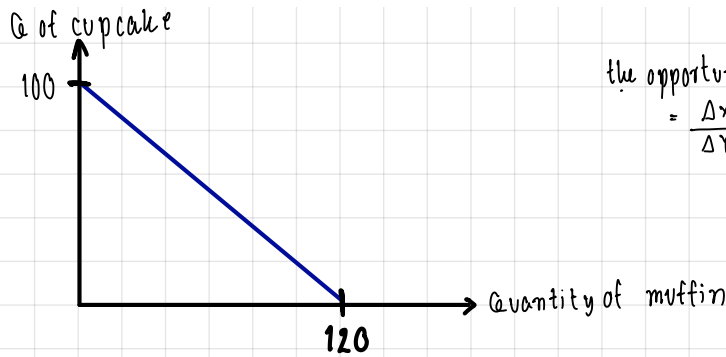


1. Suppose that a baker can produce muffins and cupcakes. If she uses all her resources on producing muffins, she can bake 120 muffins. If she produces only cupcakes, she can bake 100 cupcakes.

(a) Draw the Production Possibility Curve of this baker, where the x-axis represents the quantity of muffins and y-axis represents the quantity of cupcakes. Assume that the PPC is a straight line. What is the opportunity cost of each cupcake?



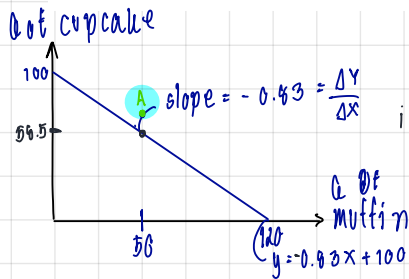
the opportunity cost of each cupcake?

$$= \frac{\Delta x}{\Delta y} = \frac{120-0}{100-0} = 1.2$$

↳ when bake 1 more cupcake, there will be lost 1.2 of muffin.

(b) With her available resources, can this baker make 60 cupcakes and 50 muffins? Justify your answer.

(50, 60)



$$y = -0.83x + 100$$

$$\text{if } x = 50: y = -0.83(50) + 100$$

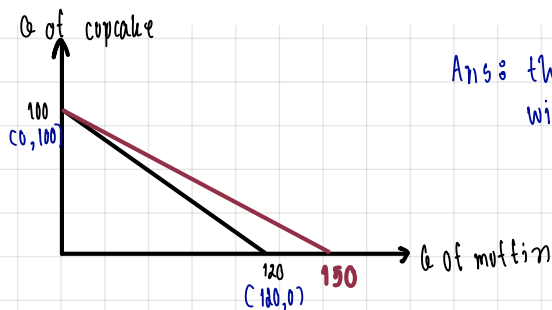
$$y = -41.5 + 100$$

$$y = 58.5$$

50, this mean when baker make 50 muffin she can make only 58.5 cupcakes, which is on PPC
 ∴ she can not make 50 muffins and 60 cupcake, which is at point A, it is impossible.

your answer.

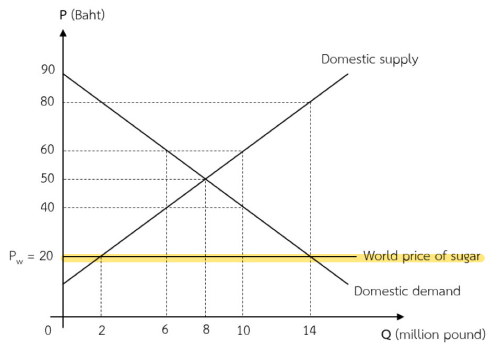
(X) If the baker learns a new technique and now the maximum quantity of muffins she can produce is 150 muffins, while the maximum quantity of cupcakes she can produce is still 100 cupcakes, *ceteris paribus*. Will the opportunity cost of each cupcake increase or decrease, and by what amount? Illustrate the change of the Production Possibility Curve of this baker.



Ans: the opportunity cost of each cupcake will increase by 0.2 of muffin

$$\text{sol before } \frac{\Delta x}{\Delta y} = \frac{120-0}{0-100} = -1.2 \rightarrow \text{After, } \frac{\Delta x}{\Delta y} = \frac{150-0}{0-100} = -1.5$$

2. Supposed that sugar is traded freely in the world market, Thai people consume domestically produced sugar while the rest is imported. Given that world market price is 20 baht per pound and the government decides to set domestic ceiling price equally to the world price, below graph shows domestic demand, supply and world price level. Answer the following questions.

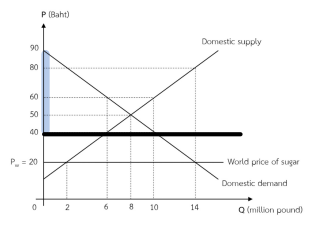


(a) Supposed that Thailand takes world price, how many pounds of sugar is imported at the world price level?

: the demand for sugar are 14 million pound but the company willing to produce at price 20 just only 2 million pound. Therefore, there will be 12 million pound of sugar is imported

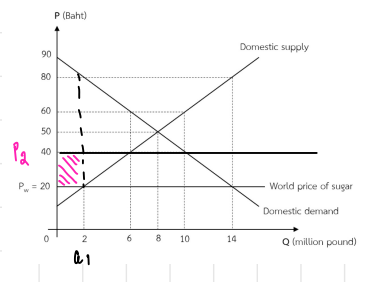
(b) If the government further decides to collect an import unit tax of 20 baht per pound and the price after tax becomes 40 baht per pound,

(c) How much of the sugar is domestically produced in Thailand after tax?



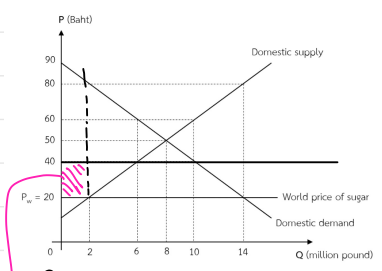
: 6 million pound

(e) Compute the government revenue from the import tax and identify its area in the provided graph. Clearly explain why the area identified above represents the government revenue from the import tax.



$$\begin{aligned} &= (P_2 - P_w)(Q_1) \\ &= (40 - 20)(2) \\ &= 40 \text{ million baht} \end{aligned}$$

(d) After the import tax is imposed, compute the change in consumer surplus. Also highlight the change in consumer surplus in the provided graph. Are the domestic consumers better off or worse off? Clearly explain your answer.



① the change in consumer surplus

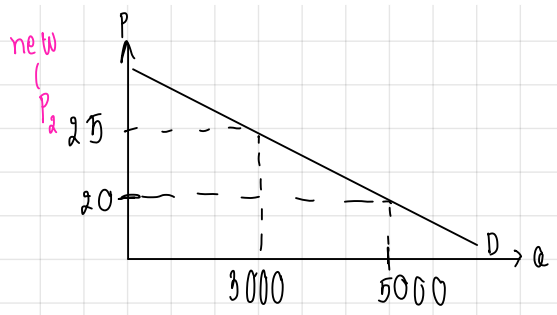
$$\begin{aligned} &① : \text{the change in consumer surplus} \\ &= P_2 - P_w (Q_1) \\ &= (40 - 20)(2) \\ &= 40 \text{ million baht} \end{aligned}$$

② the government raise tax and the price of sugar become 40 which they increase tax by 20 baht per pound and how ever price the producer will sell they have to pay tax at $(P_2 - P_w)$ with quantity they could supply which is Q_1

③ worse off because as there are tax, so the cost of production increase, which raise price up and that make consumer surplus decrease.

3. Suppose that the quantity demanded for sweetened green tea at Thammasat University is 5,000 bottles per month at the price 20 baht per bottle. Suppose further that the university imposes an excise tax of 5 baht per bottle so that the new price is 25 baht per bottle. At this new price, the quantity demanded drops to 3,000 bottles per month.

(a) Use POINT elasticity to calculate the price elasticity of demand at the NEW price.



$$\begin{aligned}
 E_d &= \frac{P}{Q} \frac{\Delta Q}{\Delta P} \\
 &= \frac{25}{3000} \frac{5000 - 3000}{20 - 25} \\
 &= \frac{-10}{3}
 \end{aligned}$$

(b) Without any calculation, would the total sale revenue from selling sweetened green tea at Thammasat University decrease or increase? Explain by using the concept of price elasticity of demand.

: Decrease because sweetened green tea can be substituted by other drink; so when there is change in price, there will be large change in quantity of demand

(c) Suppose that, as a result of imposing this tax on green tea, the quantity demanded for "Super Drink" increases from 2,500 to 3,000 bottles per month, all else constant. Calculate the cross-price elasticity of demand for "Super Drink", with respect to the price of sweetened green tea.

$$\begin{aligned}
 E_c &= \frac{P^b}{Q_a} \cdot \frac{\Delta Q_a}{\Delta P^b} \\
 &= \frac{25}{3000} \cdot \frac{3000 - 2500}{25 - 20} \\
 &= \frac{25}{3000} \cdot \frac{500}{5} \\
 &= \frac{25}{6}
 \end{aligned}$$

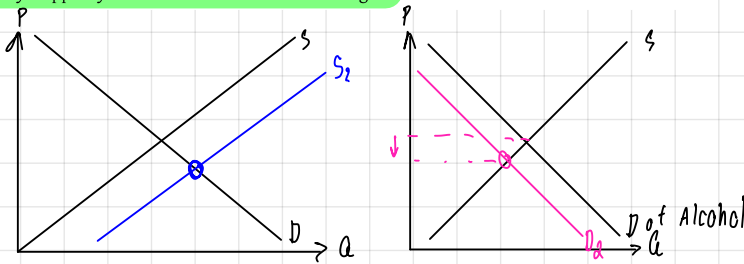
(d) From part (c), are sweetened green tea and Super Drink complements or substitutes? Explain.

: Substitute because when price of green tea increase there is increase in quantity of demand of super drink

4. Consider a liquor market in a country, answer the following questions. If you have any specific assumption, please state them clearly within each item.

assumption, please state them clearly within each item.

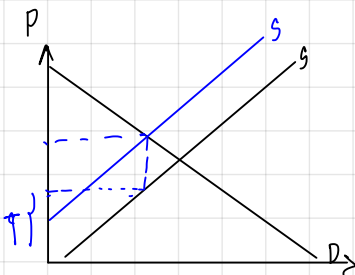
(a) Supposed that a Health Foundation which is an independent organization decides to put up a campaign showing how bad can alcoholic beverages affect health condition in long-term through several big billboards, what do you think will happen to this market, equilibrium price and quantity. Support your claim with economic reasoning.



the quantity of other drinks with no alcohol will increase. because people turn to drink other drinks

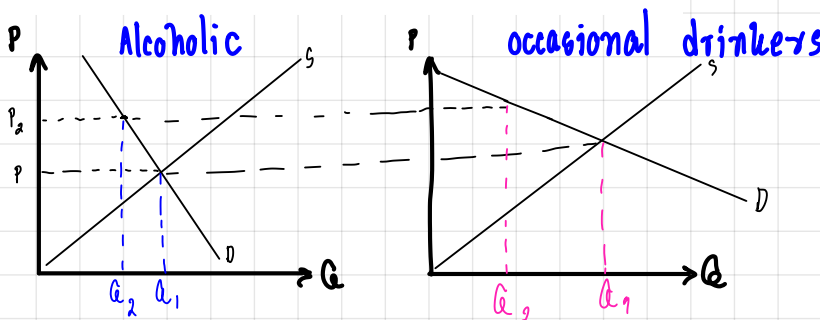
there will be decrease in quantity of demand in drinks with Alcohol and the equilibrium price will decrease

(b) If the government decides to collect unit tax on sellers, show that how would this affects equilibrium price and quantity. Provide a clear explanation with support of a diagram.



When there are tax, there will be decrease in supply, with higher price, and decrease quantity of demand.

(c) There are two groups of liquor consumers: the alcoholic and the occasional drinkers. Does the unit tax affect both groups the same or differently. Provide a clear explanation with support of diagrams.



in case of Alcoholic, alcohol is inelastic good because they addicted to it, so even price go up really higher they would still buy them.

On the other hand, the occasional drinkers would find substitute drinks for them, so when the price goes up there will be big change in quantity demand.