

1. Belle is choosing ham (h) and cheese (c), which is assumed to be substitutable goods for her. Her total utility from each product is given in the table here.

cardinal method

Quantity	Total utility from ham (TU_h)		Total utility from cheese (TU_c)	
1	15	15	12	12
2	26	11	21	9
3	35	9	27	6
4	41	6	32	5
5	45	4	35	3
6	48	3	37	2
7	49	1	38	1

Answer the following questions.

1.a) If Belle has \$7 budget and both ham and cheese cost \$1 each, how many units of ham and cheese she should purchase to maximize her utility? Explain your method clearly.

1.b) Provide a clear explanation why her utility will not be maximized if the condition that you apply in part a. is not yet satisfied.

1a) ham, cheese cost 1\$ (budget 7\$)

$$h + c = 7$$

$$4h + 3c = 7$$

$$4(1) + 3(1) = 7$$

7

$$\frac{MU_x}{MU_y} = \frac{P_h}{P_c}$$

To maximize her utility, she should purchase 4 ham and 3 cheese.

That is because if she choose two of these items will spend all of her money.

1b) First of all, I have to say that according to 1a. At point 3 cheese and

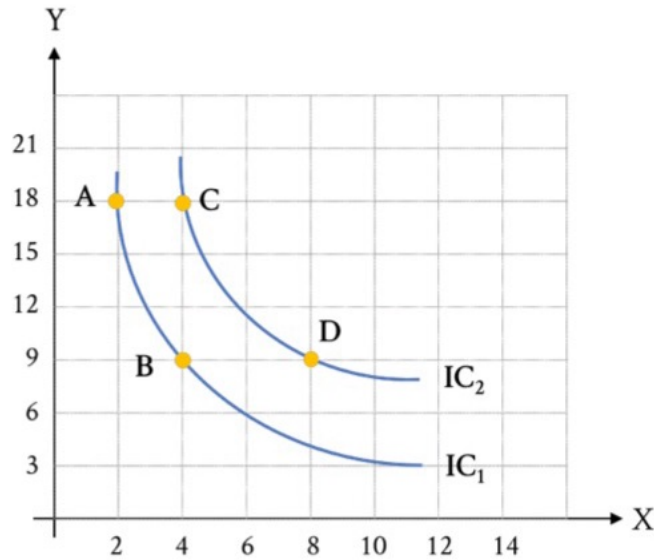
4 ham is the maximum utility that will satisfied her because it use all the budget. On the other

hand, if we choose other point from the table, it will not maximize her satisfaction. That is because

it may not use all the budget or price may higher than her budget, which make she not satisfied

on the other points.

2. A consumer finds that for him/her avocado (X) and nuts (Y) are substitutes. Assumed that this consumer yields 8 and 12 utils on IC_1 and IC_2 respectively, show your work and answer the following questions.



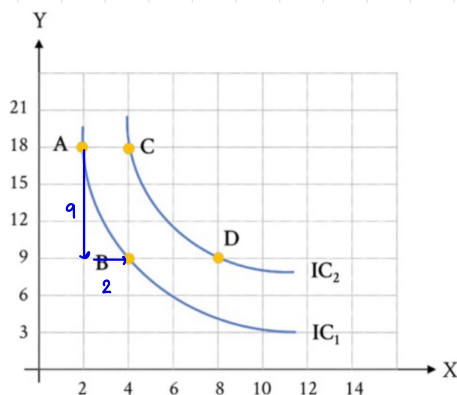
2.a) Measured from point A to B, assumed P_y is 10 baht per unit, how much P_x must be to make you conclude that the consumer's equilibrium is on point B?

2.b) Measured from point A to B, assumed P_x is 180 baht per unit, how much budget does this consumer has to achieve the equilibrium on point B?

2.c) Measured from point C to point D, how much is the average marginal utility per unit of avocado?

2.d) Show that this consumer's utility received from consuming avocado is in accordance with the law of diminishing marginal utility, using any essential information from any point. (But highly recommend that you consider all the points)

2a.)

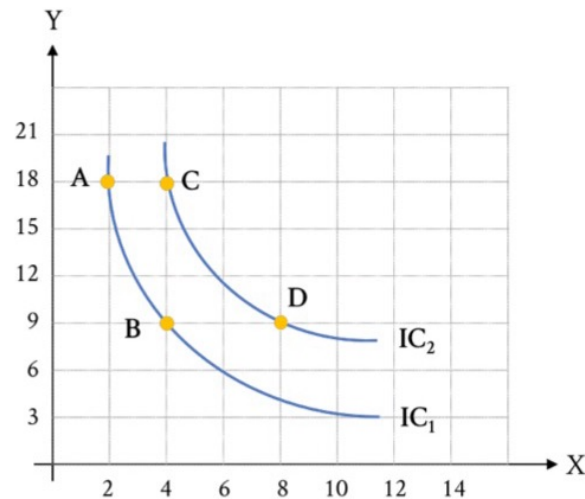


$$\frac{MU_x}{MU_y} = \frac{P_x}{P_y}$$

$$\begin{aligned} -\frac{P_x}{P_y} &= \frac{\Delta Y}{\Delta X} & -P_x &= -\frac{90}{2} \\ -\frac{P_x}{10} &= \frac{18-9}{2-4} & P_x &= 45 // \\ -\frac{P_x}{10} &= \frac{9}{-2} \\ -P_x &= \left(-\frac{9}{2}\right) \times 10 \end{aligned}$$

$$\begin{aligned} 2b.) \max P_y: & -\frac{P_x}{P_y} = -\frac{9}{2} & \frac{-360}{-9} &= P_y & I &= MU_x \cdot P_x + MU_y \cdot P_y \\ & -\frac{180}{P_y} = -\frac{9}{2} & 40 &= P_y & I &= 2(180) + 9(40) \\ & \left(-\frac{180}{P_y}\right) 2 = -9 & & & I &= 720 // \\ & -360 = -9P_y & & & & \end{aligned}$$

2. A consumer finds that for him/her avocado (X) and nuts (Y) are substitutes. Assumed that this consumer yields 8 and 12 utils on IC_1 and IC_2 respectively, show your work and answer the following questions.



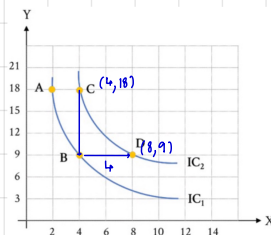
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2c.)



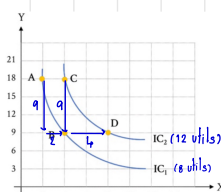
$$\text{average MU of avocado} = \frac{MU}{Q}$$

at C, have 4 avocado } avocado increase from 4 to 8
at D, have 8 avocado }

assumed that consumer yields 8 and 12 utility

$$\therefore \frac{MU}{Q} = \frac{4 \text{ utils}}{4 \text{ utils}} \rightarrow 1 //$$

2d.)



$\therefore$ from point A to B, willing to loose 9 units of 2 avocado

- $MRS = 4.5$: so, we are willing to loose 4.5 units of 1 avocado

$\therefore$ from point C to D, willing to loose 4 avocado

- $MRS = 2.25$ nuts for 1 avocado

$\therefore$ So, when we buy more avocado, this consumer is willing to sacrifice nuts less and less due to the MU_x decrease as the Q increase

- This show the law of diminishing MU_x MRS .