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.

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

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.

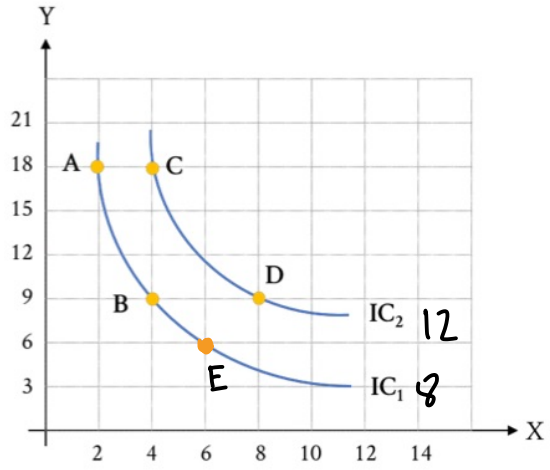
1.a) to maximize Belle utility she must purchase 4 ham and 3 cheese.

budget $7-1=6-1=5-1=4-1=3-1=2-1=1-1=0$

utility $15+12+11+9+9+6+6=68$

1.b) (4 ham 3 cheese)
the condition that I use is the Maximum Utility with 7$ budget. their no other way she can maximize her satisfied with this 7$ budget limit

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)

2.a) $\frac{y_2-y_1}{x_2-x_1} = \frac{P_x}{P_y}$ $\quad \frac{8-9}{2-4} = \frac{P_x}{10}$

$P_x = 45$

2.b) $I = (MU_x \cdot P_x) + (MU_y \cdot P_y)$

$\frac{MU_x}{MU_y} = \frac{P_x}{P_y}$ $\quad \frac{180}{P_y} = \frac{9}{2}$

$\frac{180 \times 2}{9} = P_y$

$40 = P_y$

$I = (2 \cdot 180) + (9 \cdot 40)$

$I = 720$

2.c) $\frac{\Delta TU}{\Delta X}$ $\quad \left|\frac{12-8}{4-8}\right| = 1$

2.d) at point A to B he/she have value on Avocado he/she willing to sacrifice 9 nut just for 2 additional avocado. however with law of diminishing at point B to E he/she the avocado have less valuable than point A to B, now for 2 avocado is equal to 3 nut