Assignment 2
Assigned on Sep 22th, 2021. To be submitted on Oct 7th, 2021 before midnight.

Instructions

(1) Please read the instruction carefully. Also take this habit with you into the exam room.
(2) Please read each question carefully and answer the questions straightforwardly. Always provide economic reasons at lease a paragraph for your analysis, or a graph when necessary, even when the question does not indicate so.
(3) Handing and submitting assignments are only available via BE Moodle.

Answering the questions and preparing answer sheets

(1) Answers are to be handwritten, in either digital or analog form, in a blank canvas or any clean paper. Make sure that your handwriting is clearly visible and readable.
(2) There is no need to rewrite the question. Just indicate the question number clearly for each of the answer, such as 1.a).
(3) When done, for the digital case, collage all the pages into a single PDF file. For those who write on sheets of paper, take photo of all pages then convert all of them into a single PDF file as well.
(4) Name your PDF file as StudentID_YourNickname, such as 640123456_Bo.

Submitting your answers

(1) Make sure your file does not exceed 10MB. This is the maximum file size for BE Moodle upload.
(2) Login to BE Moodle, head into the course, then the assignment topic.
(3) Choose your file to submit. Done. There will be timestamp for your upload date and time, so please make sure to not submit later than that.

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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.

Quantity	TU_h	MU_h/P_h	TU_c	MU_c/P_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

- Two conditions must be met in order to find the optimal consumption bundle: all budget must be spent and $MU_h/P_h = MU_c/P_c$

- Seven units in total of a combination of ham and cheese can be bought.

- Therefore, **4 units of ham and 3 units of cheese** is the optimal consumption bundle where $MU_h/P_h = MU_c/P_c = 6$.

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.

- If MU_h/P_h is not equal to MU_c/P_c, Belle can switch her consumption bundle to the product that has more marginal utility over price, thus incremental amount of total utility can be increased.

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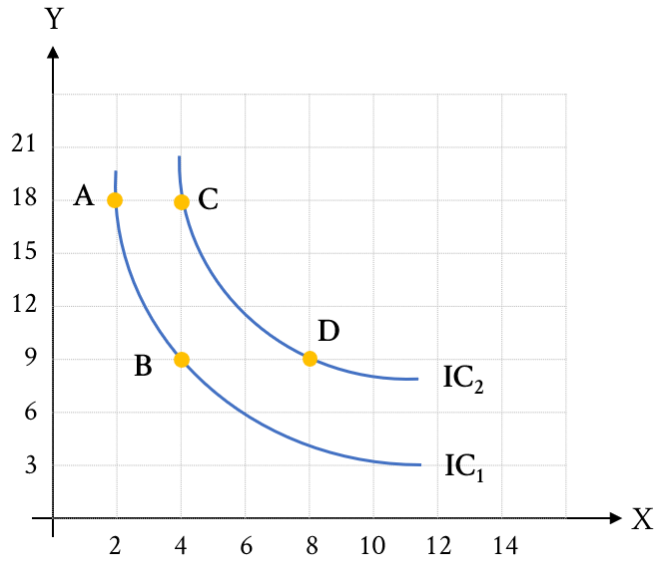
2. A consumer finds that for him/her avocado (X) and nuts (Y) are substitutes. Assumed that this consumer yields 8 and 12 utils on IC_1 and IC_2 respectively, show your work and answer the following questions.



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?

- From A to B, $MRS_{xy} = \frac{\Delta y}{\Delta x} = \frac{9-18}{4-2} = -4.5$. If consumer's equilibrium is on point B, then, the relative price on point B must also be the same, when we consider the absolute value of the ratio.

- Relative price is $MRMS_{xy} = \frac{P_x}{P_y} = \frac{P_x}{10} = 4.5$.

- Solve the equation, we get $\mathbf{P_x = 45.}$

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?

- Making an inference, $P_x = 180$ is 4 times compared to P_x in 2.a).

- P_y must also be 4 times as well, hence, $P_y = 10 \times 4 = 40$ to retain the same ratio on point B.

- On point B, 4 units of x and 6 units of y are chosen. Total expenditure is (4 x 180) + (9 x 40) = **1,080.**

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

- First of all, IC_1 and IC_2 yield 8 and 12 utils respectively.

- Moving from consumption bundle on point C to point B, this consumer loses 4 utils.

- Moving from consumption bundle on point B to point D, this consumer gain back 4 utils.

- This means that, moving from B to D, this consumer gains 4 utils from 4 units of avocado. On average, an avocado yields 4/4 = 1 marginal utility per unit.

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)

- Comparing between A to B and C to D, this consumer gives up 9 units of nuts on both moves.

- To gain back the same amount of utility, from A to B requires 2 units of avocado while 4 units from C to D which is more.

- The starting point of analysis is 2 avocados from A to B and 4 avocados from C to D, this consumer had more avocados at the latter.

- The further of the starting point, the more this consumer had avocados. And from those two moves we analyze, this consumer needs to replace 9 nuts by 2 and 4 avocados, showing that it will require more and more avocados to replace 9 nuts, representing the diminishing marginal utility of avocado.