IFEEK特別演習IIA: 2018年度

Problem Set 1: Consumer Theory

Q1. Explain following terms:

(a) Budget line

(b) Indifferene curve

(c) Marginal utility

(d) The marginal rate of substitution

(e) The principle of diminishing marginal utility

Q2. Table 1 shows the $U(X)$ schedule along with the X schedule where X is the quantity of goods X and $U(X)$ is utility from consuming X.

Table 1:

X	0	1	2	3	4	5	6	7	8	9
$U(X)$	0	7	13	18	22	25	27	28	28	27
$MU(X)$										

(a) Derive the $MU(X)$ schedule where $MU(X)$ refers to the marginal utility from consuming X.

(b) Plot the $U(X)$ and the $MU(X)$ schedules and indicate the saturation point.

Q3. Why is water, which is essential to life, so cheap while diamonds, which are not essential to life, so expensive?

Q4. (a) Is a cardinal measure of utility or satisfaction necessary in order to sketch a set of indifference curves?

(b) What are the characteristics of indifference curves?

Q5. Consider Figure 1 where the budget line and the indifference curves are drawn for goods Q_x and Q_y.

(a) Explain why points G, D, C, and F are not points of consumer equilibrium.

(b) Explain in terms of the slopes of the indifference curves and the slope of the budget line why a movement from point C to point E increases the consumer's satisfaction.

(c) Do the same for a movement from point F to point E.

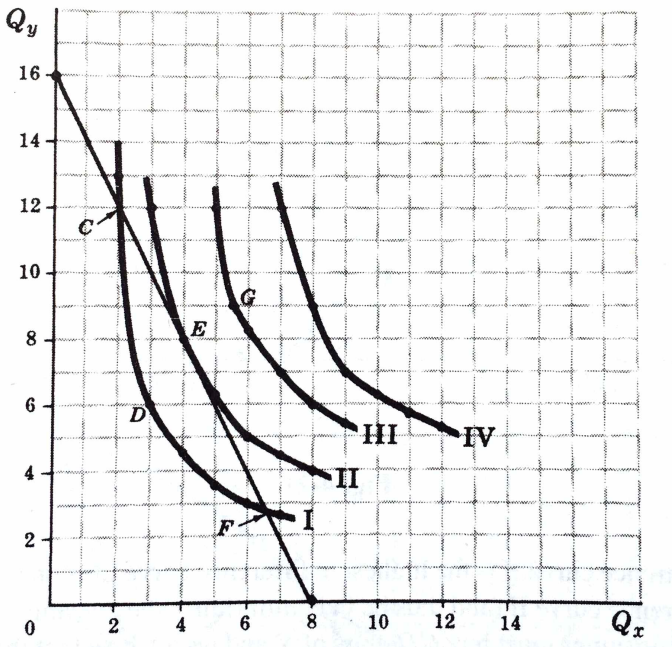
Q6. Draw a diagram showing that

(a) if the indifference curves are convex to the origin but are everywhere flatter than the budget line, the consumer maximizes satisfaction by consuming only commodity Y,

(b) if the indifference curves are convex to the origin but are everywhere steeper than the budget line, the consumer maximizes satisfaction by consuming only commodity X, and

(c) if the indifference curves are concave to the origin, the consumer maximizes satisfaction by consuming either only commodity X or only commodity Y.

Figure 1:



Q7. Consider two goods X and Y. Draw indifference curves and budget lines for different levels of income in a single diagram. Using the diagram, draw the Engel curves for X and Y in seperate diagrams.

Q8. Draw indifference curves and budget lines for different values of the price of good X on the horizontal axis. Using the diagram, draw the price consumption curve. In a separate diagram, draw a demand curve of X, and show how those two diagrams are related.

Q9. Using a diagram with X goods on the horizontal axis and Y goods on the vertical axis,

(a) identify and explain the substitution effect and the income effect of a price increase of X.

(b) identify and explain the substitution effect and the income effect of a price decrease of X.