

HUL 212: Microeconomics

Minor 1

Maximum points: 20

Attempt all questions. Just a correct answer without any explanation will earn you a zero in any question.

1. Consider a standard consumer's decision-making problem with two commodities X_1 and X_2 with prices $p_1 > 0$, $p_2 > 0$ (respectively) and income $M > 0$. Suppose a tax of $t > 0$ per unit consumption is levied on X_1 , if more than x' units of x_1 is consumed, where $x' > 0$. Draw the budget set faced by the consumer. Compare this with the situation when an ad-valorem tax is levied on X_1 . (2+2)
2. Explain briefly the economic significance of the slope of the budget line. (2)
3. Which of the following relations are complete and transitive? Explain briefly. (3)
 - (a) $>$ defined on R , the set of all real numbers.
 - (b) A teacher says that given any two students she prefers the one with "higher marks in mathematics and economics".
 - (c) X is a set of people. The relation N is defined as follows
 xNy : x lives next door to y
 - (d) None of the above.
4. Which of the following represents a monotonic transformation of the original utility function u ? (2)
 - (a) $u(x_1, x_2) = \min\{x_1, x_2\}$; $v = \min\{x_1 + 10, x_2\}$
 - (b) $u(x_1, x_2) = x_1^5 x_2^3$; $v = 10x_1^{10} x_2^6$
5. What is marginal rate of substitution? Explain its economic significance. Given the utility function $u(x_1, x_2) = \min\{x_1, x_2\}$, find the marginal rate of substitution of X_1 for X_2 . (1+1+3)
6. Given a set of indifference curves, how will you find a utility function representing the underlying preferences? (4)