Introduction to Microeconomics

Week 6

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Week 5, Question 8

Simon has the utility function $U(x, y) = (x + 2y)^2$. Which of the following statements is/are true for his preferences?

A) x and y are substitutes.

B) $MRS(x, y) = 2$.

C) $MRS(x, y) = -0.5$

D) Simon is willing to give up 2 units of y to obtain 1 unit of x to remain at a constant utility level.

Week 5, Question 9

Sarah, Simon and Rachel are choosing to buy icecreams flavoured in butterscotch (B) and dark chocolate (D). Sarah is willing to forego 2 butterscotch to obtain one dark chocolate. Simon is willing to forego 1 butterscotch to obtain 3 dark chocolates. Rachel is indifferent to dark chocolates but loves butterscotch. All of them do this maintaining the same level of utility. Which of the following statements is/are correct?

A) Simon's MRS(D, B) is -3

B) Rachel's MRS(D, B) is zero.

C) Sarah's MRS(D, B) is -2.

D) All of the above

Question 1

Vasco's utility function is $U = 10X^2Z$. The price of X is $p_X = \$1$, the price of Z is $p_Z = \$20$, and his income is $Y = \$300$. What is his optimal consumption bundle?

A) X = 20, Z = 50

B) X = 200, Z = 5

C) X = 300, Z = 0

D) None of the above

Question 2

Diego has a utility function $U(B, Z) = AB^{\alpha}Z^{\beta}$, where A, α, β are constants, B is burritos and Z is pizzas. If the price of burritos is $p_B = \$12$ and the price of pizzas is $p_Z = \$10$, and $Y = \$600$, what is Diego's MRS?

A) $\alpha Z/\beta B$

B) $\beta Z/\alpha B$

C) α/β

D) None of the above

Question 3

Diego has a utility function $U(B, Z) = AB^{\alpha}Z^{\beta}$, where A, α, β are constants, B is burritos and Z is pizzas. If the price of burritos is $p_B = \$12$ and the price of pizzas is $p_Z = \$10$, and $Y = \$600$, what is Diego's optimal bundle?

Question 4

When a consumer has $MU_A/p_A > MU_B/p_B$ which of the following is true?

A) Consumer should consume more of good A and less of good B.

B) Consumer should consume more of good B and less of good A.

C) The consumer should consume both goods in equal quantity.

D) None of the above.

Question 5

Linda loves buying shoes and going dancing. Her utility function for pairs of shoes S and number of times she goes dancing per month T is $U(S, T) = 2ST$. It costs Linda \$80 to buy a new pair of shoes or to spend an evening out dancing. Assume she has \$1280 to spend on shoes and dancing. What is Linda's marginal rate of substitution $MRS(S, T)$?

A) T/S

B) S/T

C) 2

D) None of the above

Question 6

Linda loves buying shoes and going dancing. Her utility function for pairs of shoes S and number of times she goes dancing per month T is $U(S, T) = 2ST$. It costs Linda \$80 to buy a new pair of shoes or to spend an evening out dancing. Assume she has \$1280 to spend on shoes and dancing. What is Linda's optimal bundle?

Reference Reading

1. *The Economy 2.0: Microeconomics* by CORE Econ.
2. *Introduction to Economic Analysis v. 1.0*
3. *Workouts in Intermediate Microeconomics 6e* by Hal Varian
4. *Microeconomics* by Jeffrey Perloff
5. *Microeconomics* by Pindyck and Rubenfield