Question 1.

Suppose a consumer has $8.00 to spend on only apples and bananas. Apples cost $0.40 each and bananas cost $0.10 each. The consumer’s preferences for apples (A) and bananas (B) given by:

1. Write down the algebraic equation for this person’s budget constraint and graph it.
2. Calculate the utility for and .
3. If A=10, what would be the amount of B to provide the same level of utility?
4. Find the utility maximizing pair of apples and bananas under the budget constraint.

Question 2.

A consumer enjoys coffee (C) and tea (T) according to the following utility function:

1. Draw the indifference curves for U=12 and U=16. What does the indifference curve imply for the relationship between tea and coffee consumption?
2. If coffee and tea both cost $3 each and consumer has $12 to spend on these products, how much coffee and tea should he buy to maximize his utility?
3. Draw the graph of his indifference curve, the budget constraint, and the optimal consumption point.
4. Would the consumer buy more coffee if he had more money to spend?
5. How would the consumption change if the price of coffee fell to $2?

Question 3.

Each time you go to a movie, you buy 2 bags of pop-corn. Your utility function can be expressed as U(M,C) = Min(2M, C). The price of pop-corn is $2.50 and the price of a movie ticket is $10. You have $30 to spend on these activities. Draw the utility functions for U=2 and U=4. Find the optimal consumption that yields the maximum utility.