**Economics Sample Test**

**Problem 1.**

The market demand for the product is given by the equation P=1200 – 3Q where Q is the market quantity. The market supply curve is given as P = 200 + 2Q. Calculate the equilibrium quantity and price in this market. Draw the graph and label them on the graph.

**Problem 2.**

Assume that a sugar-producing firm is in a perfectly competitive industry with an identical product. The marginal cost (MC)of this firm is given with this equation: MC= 3q+100. Total cost: TC=1000 + q2 + 10q (q is the quantity of output produced by the firm). Profit maximizing price is 400$. With the given information above, please calculate at this equilibrium:

**a)** Profit maximizing quantity; **b)** Total revenue; **c)** Total cost;

**d)** Average total cost; **e)** Profit. **f)** Draw a diagram for this problem and label your results for a), d), e) on it. **g)** Is this firm in a short-run or long-run equilibrium? If it is in the short run, what we can expect in long run to happen?

**Problem 3.**

Assume that in Kyrgyzstan, GDP is $9 billion, taxes are $3 billion, private saving is $2 billion, and public saving is $2 billion. Supposing that the economy of Kyrgyzstan is closed; calculate consumption, government purchases, national saving, and investment.

**Problem 4.**

Draw a diagram of the Keynesian cross (Total production & Total Expenditures) Show the equilibrium and explain the graph, how the economy is coming to the equilibrium.

**Problem 5.**

a. Find the derivative of the function:

b. Find the partial derivatives and of function:

c. Evaluate the integral: