King Fahd University of Petroleum and Minerals
Department of Mathematics and Statistics

Math 131 (Term 133) – Quiz 2

Student Name_____ **Student ID:** _____

Exercise 1

Supply and demand equations for a certain product are, respectively, $\mathbf{3q - 200p + 1800 = 0}$ and $\mathbf{3q + 100p - 1800 = 0}$. Where p represents the price per unit in Riyals and q represents the number of units sold per time period. Find the equilibrium price when a tax of **0.27 SR** per unit is imposed on the supplier.

Exercise 2

A produce grower is purchasing fertilizer containing three nutrients: **A**, **B**, and **C**. The minimum monthly requirements are **320** units of **A** and **400** of **B**; and the maximum monthly requirements are **800** units of **C**. There are two popular blends of fertilizer on the market. Blend **I,** costing **10 SR** a bag, contains **2** units of **A** and **1** unit of **B**. Blend **II**, costing **20 SR** a bag, contains **2** units of **B** and **20** units of **C**. How many bags of each blend should the grower buy each month to minimize the cost of meeting the nutrient requirements? Formulate the problem (Do not solve it).