

Math 131 (Semester 111)  
**Quiz One**

Name: \_\_\_\_\_

ID Num: \_\_\_\_\_

Serial Number: \_\_\_\_\_ Section Number: \_\_\_\_\_

1. A woman borrows a total of \$1,000,000 from two banks A and B. Bank A charges 3% interest per year and bank B charges 5% interest per year. Her total interest in one year is \$35,000. How much did she borrow from each bank?

2. Solve the following system of linear equations

$$\begin{cases} x + 2y + z = 0 \\ 2x + 3y - z = 1 \\ 3x + 7y + 6z = -1 \end{cases}$$

3. If supply and demand equations are given by

$$p = 2q - 1 \text{ and } p = \frac{1}{2q + 1}$$

respectively, then find the equilibrium point.

4. Sketch the region defined by the following system of inequalities. Label all corner points.

$$\begin{cases} y \leq 5 \\ 2x + y \geq 3 \\ 2x - y < 2 \\ x, y \geq 0 \end{cases}$$