

**Math 131 (Term 133) – Quiz 3**

Student Name \_\_\_\_\_ Student ID: \_\_\_\_\_

**Exercise**

Use the dual and simplex method to solve the following problem:

$$\text{Minimize } Z = 2x_1 + 5x_2 + 3x_3 \text{ subject to } \begin{cases} x_2 + x_3 \geq 5 \\ x_1 + x_2 + x_3 \geq 4 \\ x_1 - x_2 - x_3 \leq 1 \\ -x_1 + x_3 \leq 3 \end{cases}$$

**Dual Problem:**

**Final Tableau** (Show your work on the back of this page)

**Initial Tableau:**

**Solution of the Dual Problem:**

**Solution of the Initial Problem:**