KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS
DEPARTMENT OF MATHEMATICS AND STATISTICS
MATH 131 - QUIZ 3

Name:
Student ID #:

Question1. Maximize $Z = 3x_1 + 4x_1$ subject to constraints

$$\begin{cases} x_1 + x_2 \leq 4 \\ 2x_1 + x_2 \leq 5 \\ x_1, x_2 \geq 0 \end{cases}$$

Question2. Find the dual of the following problem: Minimize the objective function $Z = -2x_1 + x_2$ subject to the constraints

$$\begin{cases} x_1 - 2x_2 \leq -10 \\ x_1 - x_2 \geq 5 \\ -3x_1 + x_2 \geq 7 \\ x_1, x_2 \geq 0 \end{cases}$$

Your Solution.