Name: _____

Student ID: _____

Assignment 3

This assignment is graded out of 10 marks. You must show all your work, the correct answer is worth 1 mark the remaining marks are given for the work. If you need more space for your answer use the back of the page.

Question 1. *(5 marks)* Maximize $p = 8x_1 + 9x_2 + 4x_3$ subject to the constraints

$$x_1 + x_2 + 2x_3 \leq 2$$
$$2x_1 + 3x_2 + 4x_3 \leq 3$$
$$7x_1 + 6x_2 + 2x_3 \leq 8$$

Question 2. *(5 marks)* Maximize $p = x_1 + 2x_2 + 4x_3 + 5x_4$ subject to the constraints

$$x_1 + x_2 + x_4 \leq 44$$
$$2x_1 + x_2 + 2x_3 + 5x_4 \leq 200$$
$$x_1 + x_3 \leq 50$$

$$x_1 + x_2 + x_4 \leq 44$$
$$2x_1 + x_2 + 2x_3 + 5x_4 \leq 200$$
$$x_1 + x_3 \leq 50$$