

Math 354

Participation #6 Name: _____ netID: _____ Section: _____

Consider the linear programming problem:

Maximize $z = 5x_1 + 2x_2 + 6x_3$ subject to

$$4x_1 + 2x_2 + x_3 \geq 12$$

$$2x_1 + 2x_2 + 4x_3 \leq 6$$

$$x_1 - 2x_2 - 3x_3 = 3$$

$$x_1 \geq 0, x_2 \geq 0$$

1. Convert the LPP into standard form.

2. Write down the dual to the standard form version of the LPP that you found in Question 1.
Can you see anyway to simplify it?

3. Rewrite the LPP you found in Question 2 in standard form.

4. Write down the dual to the standard form version of the LPP you found in Question 3. Is this the same as the original LPP? If not, are the two problems equivalent?