Simplex Method - Exercises (1 page; 14/8/19)

(1) Minimise $-3x + 2y + z$, subject to the following constraints:

$x + y - 4z \leq 4$

$-x + 3y + 2z \geq -2$

$x \geq 0, y \geq 0, z \geq 0$

Use the ordinary Simplex method to solve this problem.

(2) Maximise $5x - 2y + 4z$, subject to the following constraints:

$2x + y - z \leq 6$

$x - y + 2z \geq 5$

$3x + y - 7z \geq 4$

$x \geq 0, y \geq 0, z \geq 0$

Apply the 1st stage of the 2 Stage Simplex method, as far as establishing the pivot row for the 2nd time.

(3) Maximise $5x - 2y + 4z$, subject to the following constraints:

$2x + y - z \leq 6$

$x - y + 2z \geq 5$

$3x + y - 7z \geq 4$

$x \geq 0, y \geq 0, z \geq 0$

Apply the Big M (Simplex) method, as far as establishing the pivot row for the 2nd time.