$(6,2)$

maximize $x_1 - 2x_2 + x_3$

subject to $2x_1 - x_2 + x_3 \le 0,$

$3x_1 + x_2 + x_3 \le 0,$

$-5x_1 + 3x_2 - 2x_3 \le 0,$

$x_1, x_2, x_3 \ge 0.$

maximize $z = 0 + \dfrac{2}{3}x_5 - \dfrac{1}{3}x_6 - \dfrac{7}{3}x_4,$

subject to $x_3 = 0 + \dfrac{1}{3}x_5 - \dfrac{5}{3}x_6 - \dfrac{14}{3}x_4,$

$x_1 = 0 - \dfrac{1}{3}x_5 + \dfrac{2}{3}x_6 + \dfrac{5}{3}x_4,$

$x_2 = 0 - \dfrac{1}{3}x_5 - \dfrac{1}{3}x_6 - \dfrac{1}{3}x_4,$

$x_1, x_2, x_3, x_4, x_5, x_6 \ge 0.$

maximize $z = 0 + x_1 - 2x_2 + x_3$

subject to $x_4 = 0 - 2x_1 + x_2 - x_3,$

$x_5 = 0 - 3x_1 - x_2 - x_3,$

$x_6 = 0 + 5x_1 - 3x_2 + 2x_3,$

$x_1, x_2, x_3, x_4, x_5, x_6 \ge 0.$

$(1,5)$

maximize $z = 0 - 2x_1 + x_6 + x_4,$

subject to $x_3 = 0 - x_1 - x_6 - 3x_4,$

$x_5 = 0 - 3x_1 + 2x_6 + 5x_4,$

$x_2 = 0 + x_1 - x_6 - 2x_4,$

$x_1, x_2, x_3, x_4, x_5, x_6 \ge 0.$

$(5,1)$

maximize $z = 0 - \dfrac{1}{3}x_5 - \dfrac{7}{3}x_2 + \dfrac{2}{3}x_3$

subject to $x_4 = 0 + \dfrac{2}{3}x_5 + \dfrac{5}{3}x_2 - \dfrac{1}{3}x_3,$

$x_1 = 0 - \dfrac{1}{3}x_5 - \dfrac{1}{3}x_2 - \dfrac{1}{3}x_3,$

$x_6 = 0 - \dfrac{5}{3}x_5 - \dfrac{14}{3}x_2 + \dfrac{1}{3}x_3,$

$x_1, x_2, x_3, x_4, x_5, x_6 \ge 0.$

$(3,4)$

maximize $z = 0 - \dfrac{7}{3}x_1 + \dfrac{2}{3}x_6 - \dfrac{1}{3}x_3,$

subject to $x_4 = 0 - \dfrac{1}{3}x_1 - \dfrac{1}{3}x_6 - \dfrac{1}{3}x_3,$

$x_5 = 0 - \dfrac{14}{3}x_1 + \dfrac{1}{3}x_6 - \dfrac{5}{3}x_3,$

$x_2 = 0 + \dfrac{5}{3}x_1 - \dfrac{1}{3}x_6 + \dfrac{2}{3}x_3,$

$x_1, x_2, x_3, x_4, x_5, x_6 \ge 0.$

$(4,3)$

maximize $z = 0 + x_5 + x_2 - 2x_4$

subject to $x_3 = 0 + 2x_5 + 5x_2 - 3x_4,$

$x_1 = 0 - x_5 - 2x_2 - x_4,$

$x_6 = 0 - x_5 - 3x_2 - 4x_4,$

$x_1, x_2, x_3, x_4, x_5, x_6 \ge 0.$

$(2,6)$

maximize $z = 0 + x_1 - 2x_2 + x_3$

subject to $x_4 = 0 - 2x_1 + x_2 - x_3,$

$x_5 = 0 - 3x_1 - x_2 - x_3,$

$x_6 = 0 + 5x_1 - 3x_2 + 2x_3,$

$x_1, x_2, x_3, x_4, x_5, x_6 \ge 0.$