Max: (set $z = 0$)

$z = x_1 + 2x_2 + 3x_3$ $z - x_1 - 2x_2 - 3x_3 = 0$

Subject to: $(if \geq use: -s_n + a_n)$, $(if \leq use: +s_n)$, (see p. 106)

$-3x_1 + 15x_2 - 3x_3 \geq 3$ $-3x_1 + 15x_2 - 3x_3 - s_1 + a_1 = 3$

$6x_1 + 3x_2 + 6x_3 \leq 60$ $6x_1 + 3x_2 + 6x_3 + s_2 = 60$

$-6x_1 + 6x_2 + 3x_3 \leq 21$ $-6x_1 + 6x_2 + 3x_3 + s_3 = 21$

$9x_1 + 5x_2 - x_3 \geq 21$ $9x_1 + 5x_2 - x_3 - s_4 + a_2 = 21$

$-3x_1 + 5x_2 + 2x_3 \geq 3$ $-3x_1 + 5x_2 + 2x_3 - s_5 + a_3 = 3$

$6x_1 + 8x_2 - 4x_3 \leq 30$ $6x_1 + 8x_2 - 4x_3 + s_6 = 30$

$8x_2 - 4x_3 \leq 12$ $8x_2 - 4x_3 + s_7 = 12$

$3x_1 + 3x_3 \geq 12$ $3x_1 + 3x_3 - s_8 + a_4 = 12$

$x_1, x_2, x_3 \geq 0$

1. Pivot on all a_n where the row value is 1. Solution (green) row a_n values should be zero now.
2. Pivot on all s_n where the row value is 1. DO NOT pivot on -1.
3. Pivot on all x_n and s_n where the rhs/row is the lowest value if the top row is a negative value. Ignore negative row values.
4. All a_n should have disappeared from lhs. Kill all a_n.
5. Input the original coefficients for all x_n.
6. Pivot on the 1 in the row column where the row value for x_n matches the column value.
7. Pivot on all s_n where top row value is negative.