#3 solution: As an LP, the problem is

to minimize $y$

subject to $x - y \leq 0$

$-x/2 - y \leq -2$

$-x - y \leq 5$

with $x, y$ unconstrained.

To put it into standard form, we make the substitutions $x = x_1 - x_2$ and $y = y_1 - y_2$ with nonnegativity constraints. We also want to maximize rather than minimize. In standard form, the problem becomes

to maximize $-y_1 + y_2$

subject to $x_1 - x_2 - y_1 + y_2 \leq 0$

$-x_1/2 + x_2/2 - y_1 + y_2 \leq -2$

$-x_1 + x_2 - y_1 + y_2 \leq 5$

with $x_1, x_2, y_1, y_2 \geq 0$