Problem Solving: Homework 3.7

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1   [GC] Problem 29.1-4

minimize $-2x_1' + 2x_1'' - 7x_2 + x_3'$

subject to

$$-x_1' + x_1'' - x_3' \leq 7$$
$$x_1' - x_1'' + x_3' \leq 7$$
$$-3x_1' + 3x_1'' - x_2 \leq 24$$
$$x_1', x_1'', x_2, x_3' \geq 0$$

where

$$x_1' - x_1'' = x_1$$
$$x_3' = -x_3$$