

Quiz #1

Please show your work and feel free to use the back of the sheet if you need more room.

1 Reformulate the following linear programming problem into standard form:

$$\begin{aligned} &\text{Maximize } z = \frac{1}{2}x + \frac{3}{2}y \\ &\text{subject to} \\ &\quad x + 3y \leq 6, \\ &\quad x + y \geq 4, \\ &\quad x \geq 0, y \geq 0 \end{aligned}$$

2 Sketch the set of feasible solutions to the following set of inequalities:

$$\begin{aligned} -x + y &\leq 2 \\ 2x + y &\leq 2 \\ y &\leq 1 \\ x &\geq 0 \end{aligned}$$