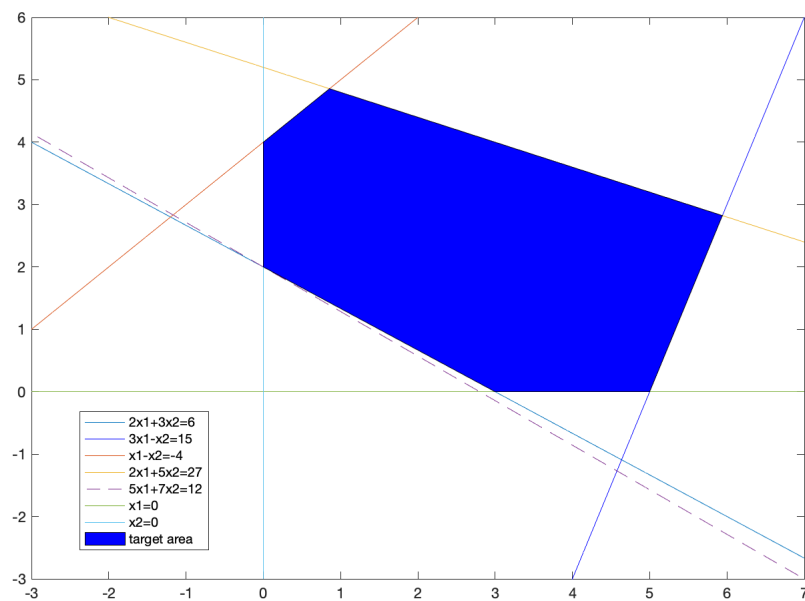


# 1 Question 1

Solve the following problem using graphical analysis.

$$\begin{aligned} \min \quad & z = 5x_1 + 7x_2 \\ \text{s.t.} \quad & 2x_1 + 3x_2 \geq 6 \\ & 3x_1 - x_2 \leq 15 \\ & -x_1 + x_2 \leq 4 \\ & 2x_1 + 5x_2 \leq 27 \\ & x_i \geq 0, \quad i = 1, 2 \end{aligned}$$



so for  $\min z = 5x_1 + 7x_2$ , we can get at the point  $(x_1, x_2) = (0, 2)$

$$\min z = 5x_1 + 7x_2 = 14$$