MA 162

Week 12 Recitation Worksheet (Tuesday)

You must show all work to receive full credit.

1. Solve the following LP problem using the simplex method.

$$
\begin{aligned}
\text{Maximize} \qquad & P = 6w + y + z \\
\text{subject to} \qquad & w + x + y \leq 2 \\
& w - 2x + z \leq 1 \\
& w \geq 0, x \geq 0, y \geq 0, z \geq 0
\end{aligned}
$$

2. Solve the following LP problem using the simplex method.

$$\begin{aligned} \text{Minimize} \qquad & C = 1800x + 2000y + 3200z \\ \text{subject to} \quad & 4x + 2y + 4z \geq 6 \\ & x + 2y + 2z \geq 8 \\ & x + y + z \geq 5 \\ & x \geq 0, y \geq 0, z \geq 0 \end{aligned}$$

3. Solve the following LP problem using the simplex method.

$$\begin{aligned} \text{Minimize} \qquad & C = 40x + 48y + 30z \\ \text{subject to} \quad & 2x + 2y + z \geq 25 \\ & x + 3y + 2z \geq 30 \\ & x \geq 0, y \geq 0, z \geq 0 \end{aligned}$$