4. Write the dual for each of the following primal problems:

(a) Maximize $z = -5x_1 + 2x_2$
subject to

\[-x_1 + x_2 \leq -2\]
\[2x_1 + 3x_2 \leq 5\]
\[x_1, x_2 \geq 0\]

(b) Minimize $z = 6x_1 + 3x_2$
subject to

\[6x_1 - 3x_2 + x_3 \geq 2\]
\[3x_1 + 4x_2 + x_3 \geq 5\]
\[x_1, x_2, x_3 \geq 0\]

(c) Maximize $z = x_1 + x_2$
subject to

\[2x_1 + x_2 = 5\]
\[3x_1 - x_2 = 6\]
\[x_1, x_2 \text{ unrestricted}\]