\[ Z = 4x_1 + 5x_2 \]

\[ Z = 23 - x_4 - 3x_3 \]

\[ = 23 - (5 - x_1 - x_2) \]

\[ - 3 (8 - x_1 - 2x_2) \]

we had better get \( 4x_1 + 6x_2 \)

\[ y_1 = 1, \quad y_2 = 3, \quad y_3 = 0 \]

We claim: this is dual.

Suggest optimal is \( Z = 23 \)

\[ x_1 = 2 \]

\[ x_2 = 3 \quad x_3, x_4 = 0 \]

\[ x_5 = 1 \]

Dual optimal: \( \omega = -23 \)

\[ y_1 = 1 \]

\[ y_2 = 3 \quad y_4, y_5, y_3 = 0 \]

Maybe: \( (x_1 + 2x_2 \leq 8) \cdot 1 \)

\( x_3 \)

\( (x_1 + x_2 \leq 5) \cdot 3 \)

\( x_4 \)

\( (2x_1 + x_2 \leq 8) \cdot 0 \)

\[ 4x_1 + 5x_2 \leq 8 + 15 = 23 \]