[12] **7.** A standard LP and one of its dictionaries are given below. Slack variables are s_1, s_2.

$$
\begin{array}{lll}
(P) & \text{Maximize } f = 3x_1 + 6x_2 + 4x_3 & \\
& \text{subject to} \quad x_1 + 4x_2 + 2x_3 \leq 9 & \\
& \qquad\qquad\quad x_1 + \ x_2 + 2x_3 \leq 6 & \\
& \qquad\qquad\quad x_1, x_2, x_3 \geq 0 &
\end{array}
\qquad
\begin{array}{l}
x_1 = \ 5 - 2x_3 + (1/3)s_1 - (4/3)s_2 \\
x_2 = \ 1 \qquad\quad - (1/3)s_1 + (1/3)s_2 \\
\hline
f \ = 21 - 2x_3 - \qquad s_1 - \qquad 2s_2
\end{array}
$$

Use the Dual Simplex Method to solve the new problem created by adding the following constraint to (P):

$$x_1 + x_3 \leq 3.$$

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