19. Use the Simplex algorithm to solve

\[
\begin{align*}
5x_1 + 4x_2 + 3x_3 + 2x_4 & \rightarrow \text{max} \\
x_1 + 2x_2 + x_4 & \leq 1 \\
x_1 + x_2 + 2x_3 & \leq 2 \\
x_1 + 2x_3 + 2x_4 & \leq 3 \\
x_1, x_2, x_3, x_4 & \geq 0.
\end{align*}
\]

20. Work on problems 1–3 of Section 4.3 in the textbook.

21. Work on problems 1–2 of Section 4.4 in the textbook.

22. Work on problem 2 of Section 4.5 in the textbook.