Ex:

Find the absolute voltages at all the labeled nodes in the above circuit. Hint: start at the reference and work outward.

**SOL’N:** Starting at the reference, which is 0 V, we work our way upwards. If we enter a source at the – sign, we add the voltage of the source. Otherwise, we subtract the voltage of the source.

\[
\begin{align*}
    v_1 &= 6 \text{ V} \\
    v_2 &= 10 \text{ V} \\
    v_3 &= v_2 + 2 \text{ V} = 12 \text{ V} \\
    v_4 &= v_3 + 4 \text{ V} = 16 \text{ V} \\
    v_5 &= -3 \text{ V}
\end{align*}
\]