Ex:

Find the absolute voltages at all the labeled nodes in the above circuit. Hint: this may be done by inspection.

SOL'N: The node voltages are found by starting at the reference, (0 V), and stepping from node to node via voltage sources. If we enter a voltage source at the – sign and exit at the + sign, then we add the voltage of the source.

NOTE: Nodes connected by wires are really the same node and have the same voltage. Thus, the center node and the center-right node are at 0 V

Starting from the reference and working up, we get the following successive voltages:

\[ v_2 = 7 \text{ V} \]
\[ v_1 = 3 \text{ V} \]