Node Method:

1. Assign a reference node (ground).
2. Assign node voltage names to the remaining nodes.
3. Solve the easy nodes first, the ones with a voltage source connected to the reference node.
4. Write Kirchhoff's Current Law for each node. Do Ohm's Law in your head.
5. Solve the resulting system of equations for all node voltages.
6. Solve for any currents you want to know using Ohm's Law.

Mesh Method:

1. Identify the meshes.
2. Assign a current variable to each mesh, using a consistent direction (clockwise or counterclockwise).
3. Write Kirchhoff's Voltage Law around each mesh.
   1. Voltage sources go in as voltages.
   2. Resistor voltages go in as R × I (loop)​.
   3. If two loop currents flow in opposite directions in a resistor, the voltage goes in as R × (iloop1−iloop2).
   4. Set the sum of voltages equal to zero.
4. Solve the resulting system of equations for all loop currents.
5. Solve for any element currents and voltages you want using Ohm's Law.

Now we have two methods for analyzing circuits, Node Voltage and Mesh Current. Which is the best one to use in a given situation?

To choose between the two methods, count the number of meshes in the circuit and compare that to the number of nodes. Which number are smaller, meshes or nodes? It is usually best to choose the method that generates fewer equations.

If the meshes and nodes are the same, or nearly the same, you can choose the method you understand the best. Or

If there is a known voltage for some node 🡪 the node is better

If there is a known current for some mesh 🡪 the mesh is better