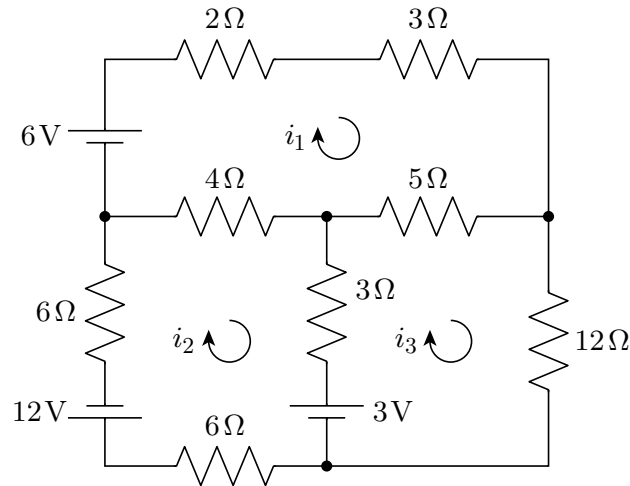


3. For the electric circuit shown, the equations for the mesh currents (i_1 , i_2 , and i_3 , in amperes) are given by

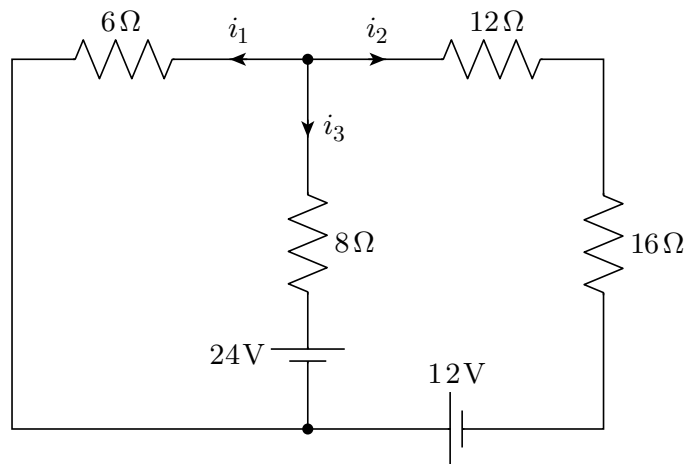
$$\begin{aligned} 14i_1 - 4i_2 - 5i_3 &= 6, \\ -4i_1 + 19i_2 - 3i_3 &= -15, \\ -5i_1 - 3i_2 + 20i_3 &= 3. \end{aligned}$$



Solve the equations using matrix inversion, and give your answers correct to 3 significant figures.

4. For the circuit shown below, the currents i_1 , i_2 , and i_3 (in amperes) satisfy these equations:

$$\begin{aligned} i_1 + i_2 + i_3 &= 0, \\ 6i_1 - 8i_3 &= 24, \\ 7i_2 - 2i_3 &= 9. \end{aligned}$$



Solve the equations using matrix inversion, giving all answers correct to 3 decimal places.