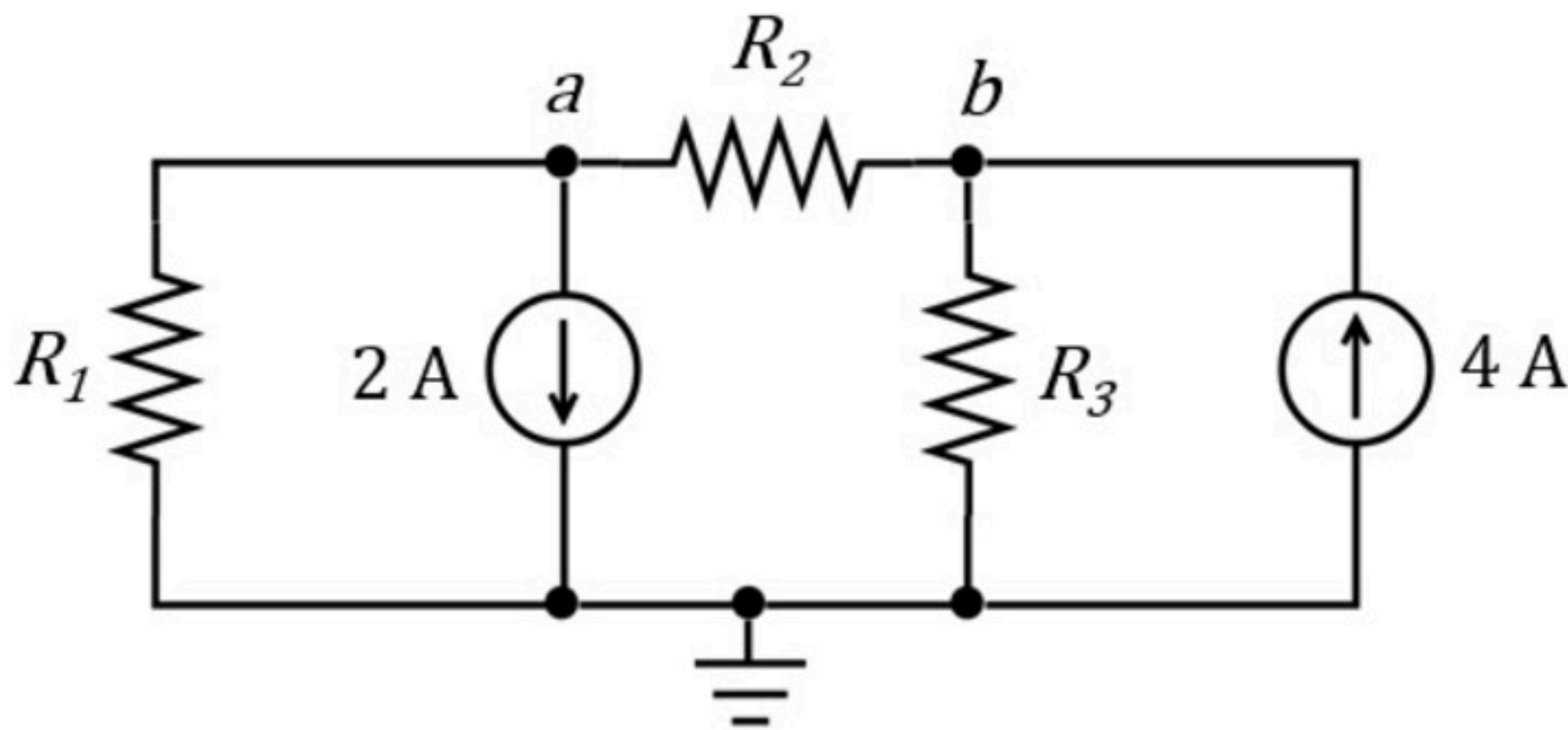


Nodal Mesh 001

Problem has been graded.

Find the node voltages v_a and v_b .
Use nodal analysis.



Given Variables:

R_1 : 3 ohm

R_2 : 6 ohm

R_3 : 1 ohm

Calculate the following:

v_a (V) :

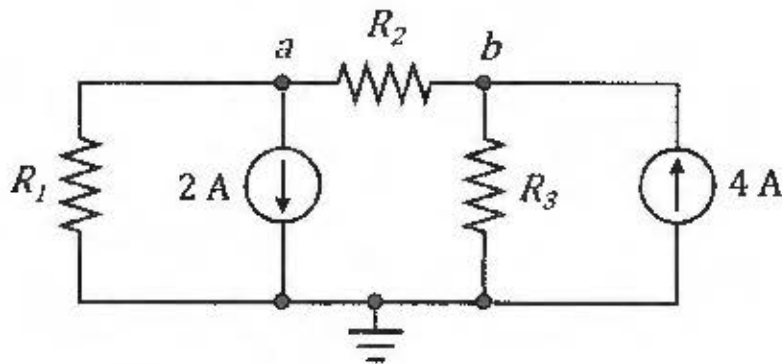
v_b (V) :

Find the node voltages v_a and v_b .
Use nodal analysis.

$$R_1 = 2 \Omega$$

$$R_2 = 1 \Omega$$

$$R_3 = 1 \Omega$$



$$\textcircled{*} \text{ KCL @ } a : \frac{v_a}{2} + \frac{v_a - v_b}{1} + 2 = 0 \Rightarrow 3v_a - 2v_b = -4 \quad (1)$$

$$\textcircled{*} \text{ KCL @ } b : \frac{v_b - v_a}{1} + \frac{v_b}{1} - 4 = 0 \Rightarrow -v_a + 2v_b = 4 \quad (2)$$

$$\textcircled{*} (1) + (2) : 2v_a = 0 \Rightarrow \boxed{v_a = 0 \text{ V}}$$

$$\boxed{v_b = 2 \text{ V}}$$

CHECK KCL

