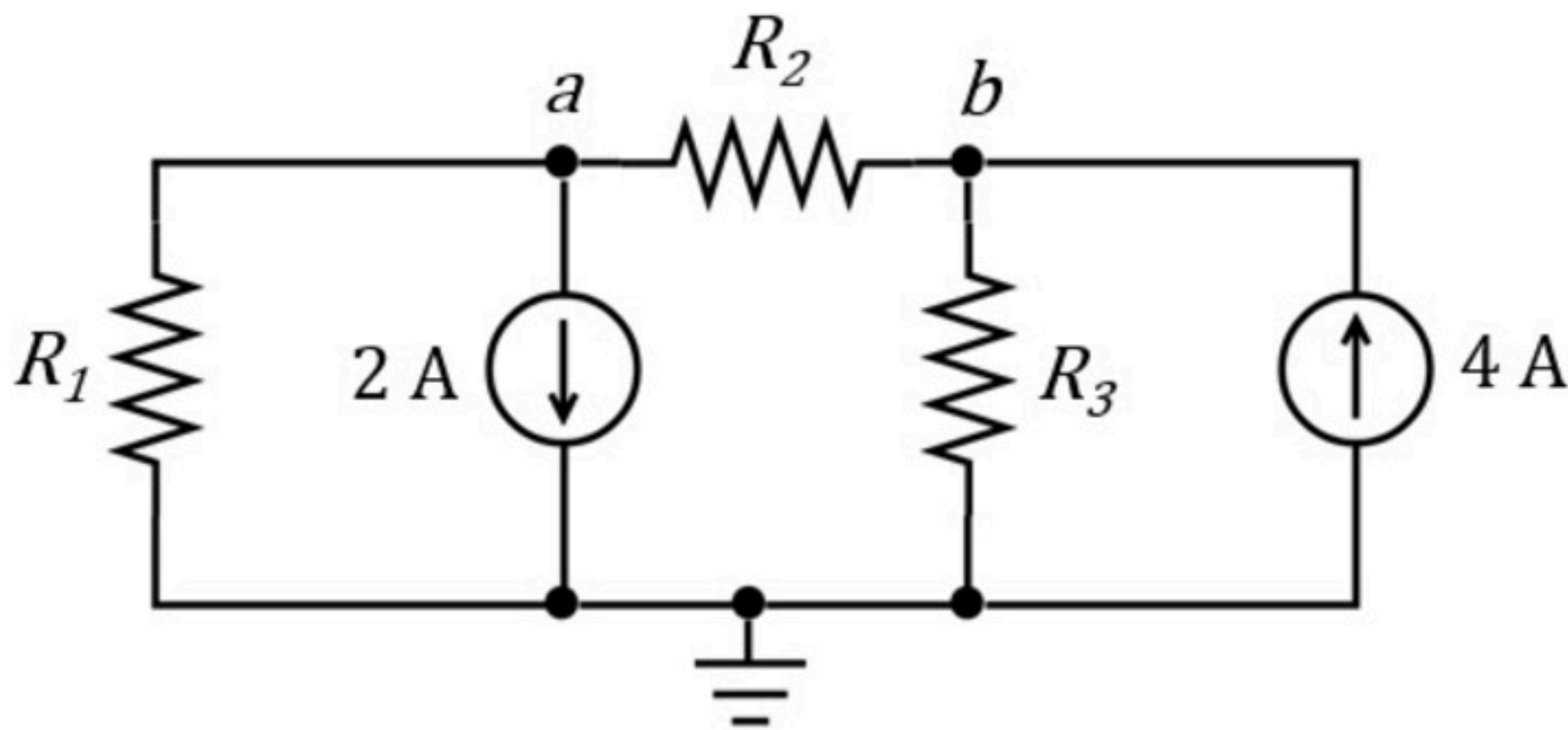


# Nodal Mesh 001

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) :

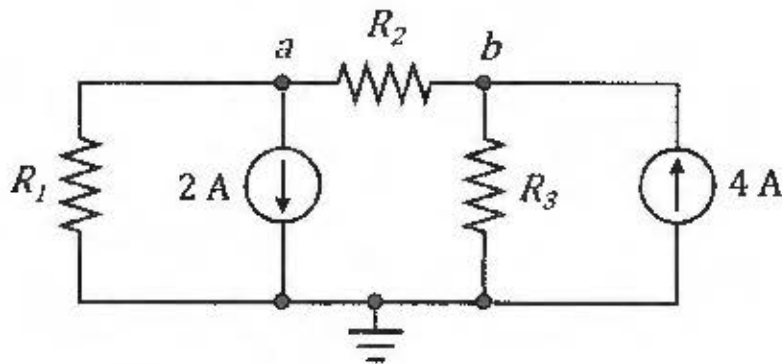
$v_b$  (V) :

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

$$R_1 = 2 \Omega$$

$$R_2 = 1 \Omega$$

$$R_3 = 1 \Omega$$



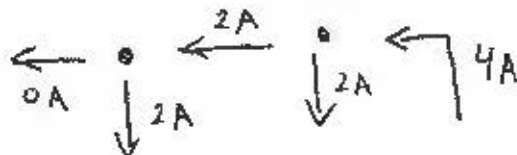
$$\textcircled{*} \text{ KCL @ } a : \frac{v_a}{2} + \frac{v_a - v_b}{1} + 2 = 0 \Rightarrow 3v_a - 2v_b = -4 \quad (1)$$

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

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

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

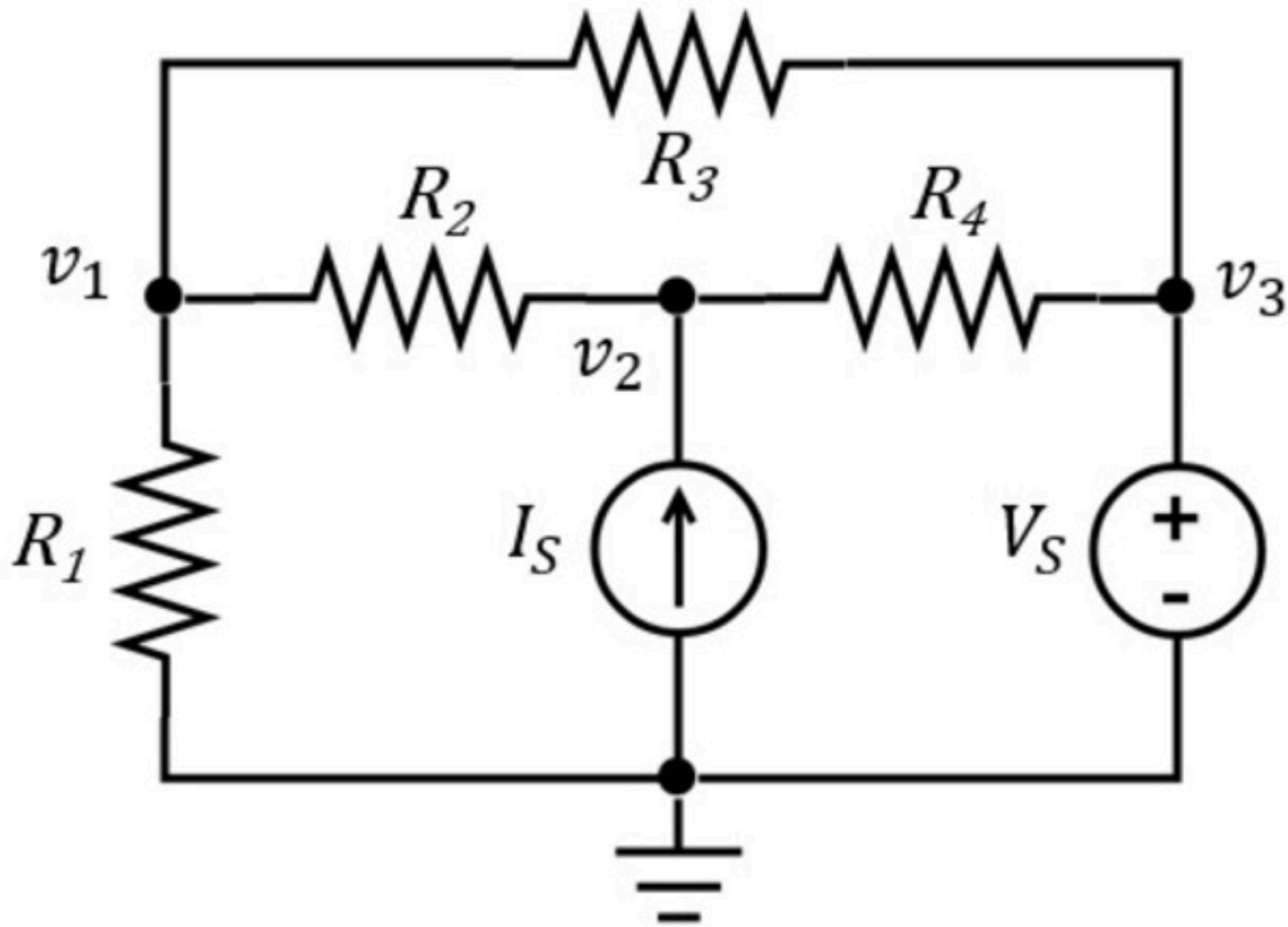
CHECK KCL



# Nodal Mesh 002

Problem has been graded.

Find the node voltages  $v_1$ ,  $v_2$  and  $v_3$ .  
Use nodal analysis.



Given Variables:

$R_1$  : 2 ohm

$R_2$  : 1 ohm

$R_3$  : 1 ohm

$R_4$  : 2 ohm

$V_S$  : 5 V

$I_S$  : 1 A

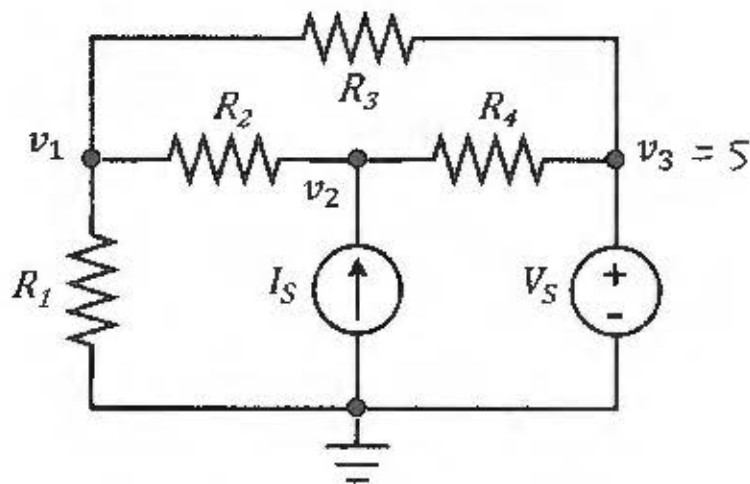
Calculate the following:

$v_1$  (V) :

$v_2$  (V) :

$v_3$  (V) :

Find the node voltages  $v_1$ ,  $v_2$  and  $v_3$ .  
Use nodal analysis.



$$R_1 = 2 \, \Omega$$

$$R_2 = 1 \, \Omega$$

$$R_3 = 1 \, \Omega$$

$$R_4 = 2 \, \Omega$$

$$V_s = 5 \, \text{V}$$

$$I_s = 1 \, \text{A}$$

$$v_3 = V_s \Rightarrow \boxed{v_3 = 5 \, \text{V}}$$

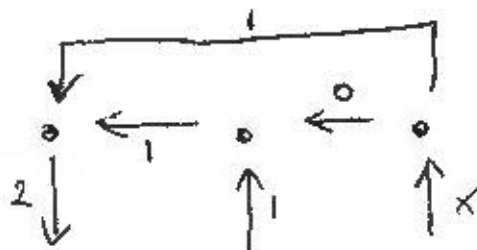
$$\textcircled{*} \text{ KCL @ 1: } \frac{v_1}{2} + \frac{v_1 - 5}{1} + \frac{v_1 - v_2}{1} = 0 \Rightarrow 5v_1 - 2v_2 = 10 \quad (1)$$

$$\textcircled{*} \text{ KCL @ 2: } \frac{v_2 - v_1}{1} + \frac{v_2 - 5}{2} - 1 = 0 \Rightarrow -2v_1 + 3v_2 = 7 \quad (2)$$

$$\textcircled{*} \quad 3 \times (1) + 2 \times (2): \quad 11v_1 = 44 \Rightarrow \boxed{v_1 = 4 \, \text{V}}$$

$$\boxed{v_2 = 5 \, \text{V}}$$

CHECK KCL

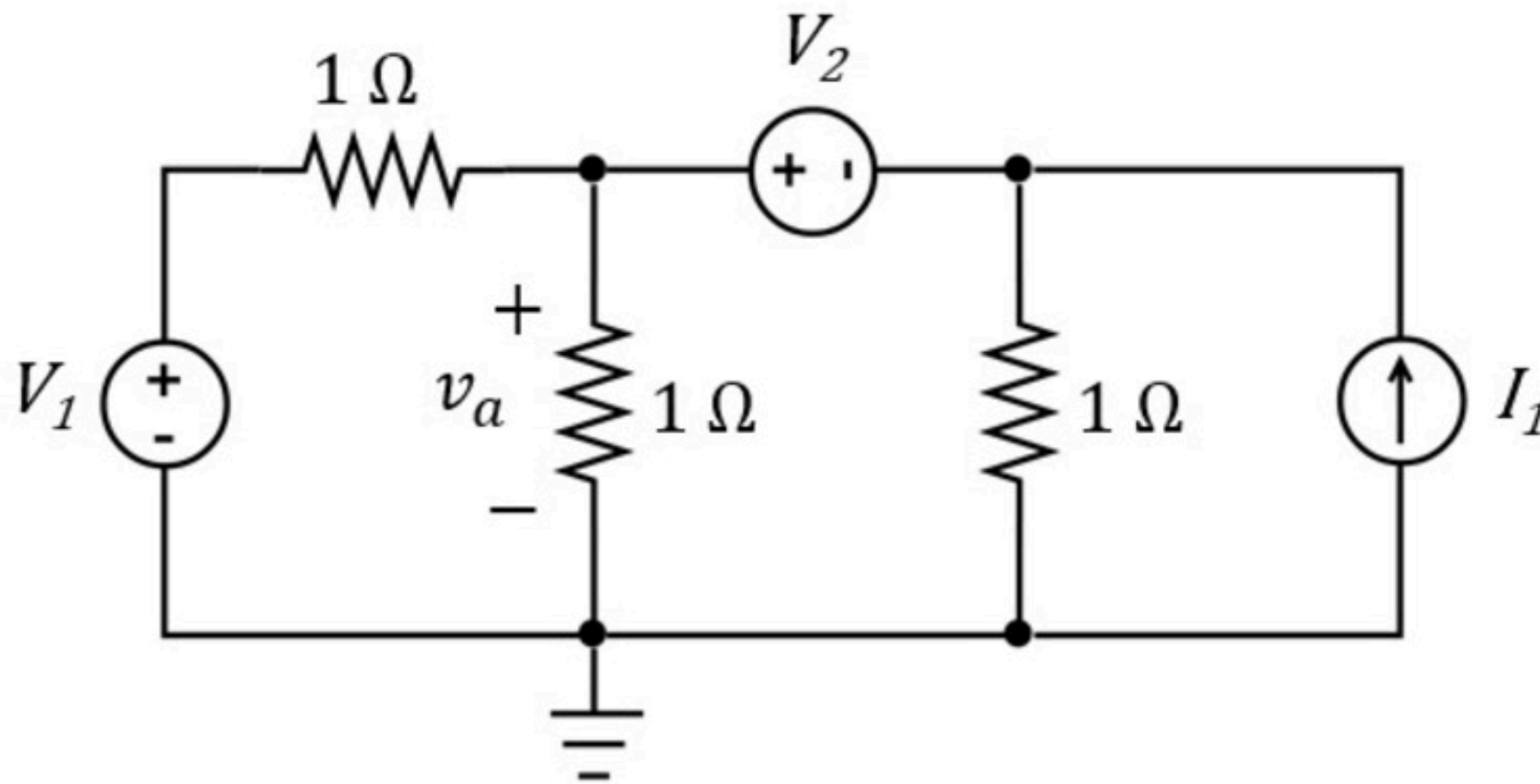


$$x = 1$$

# Nodal Mesh 003

Problem has been graded.

Find the voltage  $v_a$  . Use nodal analysis.



Given Variables:

$V_1$  : 6 V

$V_2$  : 10 V

$I_1$  : 5 A

Calculate the following:

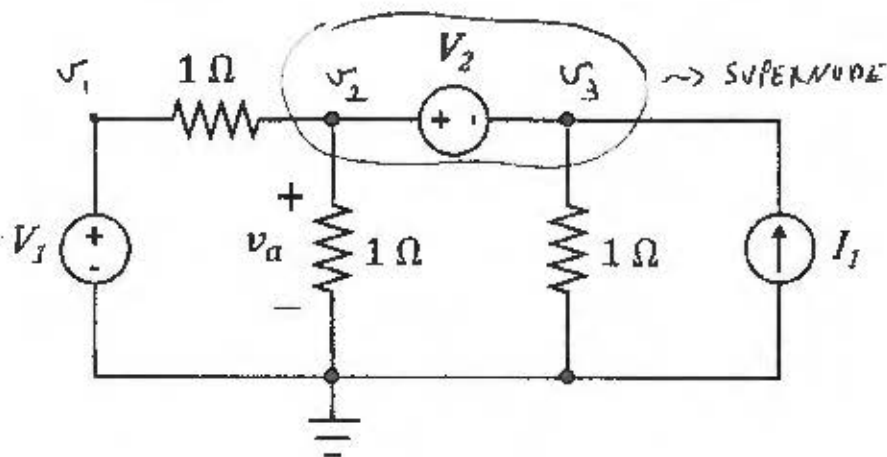
$v_a$  (V) :

Find the voltage  $v_a$ . Use nodal analysis.

$$V_1 = 6 \text{ V}$$

$$V_2 = 10 \text{ V}$$

$$I_1 = 5 \text{ A}$$



$$v_1 = V_1 = 6 \text{ V}$$

$$\textcircled{*} \text{ KCL @ SN: } \frac{v_2 - 6}{1} + \frac{v_2}{1} + \frac{v_3}{1} - 5 = 0$$

$$\Rightarrow 2v_2 + v_3 = 11 \quad (1)$$

$$\textcircled{*} \text{ SN: } v_2 = v_3 + 10 \quad (2)$$

$$\textcircled{*} (2) \text{ in } (1): 2v_3 + 20 + v_3 = 11 \Rightarrow 3v_3 = -9 \Rightarrow v_3 = -3 \text{ V}$$

$$v_2 = 7 \text{ V}$$

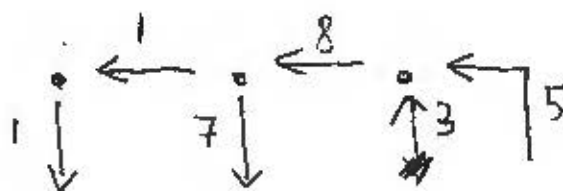
$$v_a = v_2 \Rightarrow \boxed{v_a = 7 \text{ V}}$$

CHECK

KCL

AND

$$v_2 - v_3 = 10 \text{ V}$$



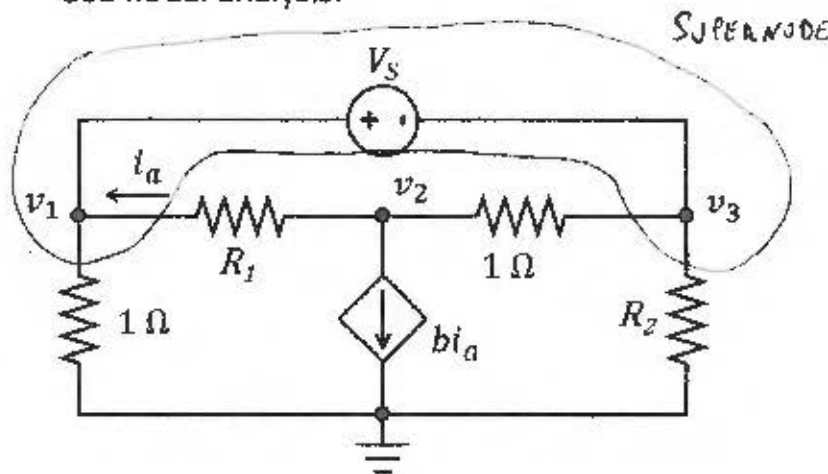
Find the node voltages  $v_1$ ,  $v_2$  and  $v_3$ .  
Use nodal analysis.

$$V_s = 9 \text{ V}$$

$$R_1 = 5 \Omega$$

$$R_2 = 5 \Omega$$

$$b = 3 \text{ A/A}$$



OPTION 1

$$\textcircled{*} \text{ KCL @ SN: } \frac{v_1}{1} + \frac{v_1 - v_2}{5} + \frac{v_3 - v_2}{1} + \frac{v_3}{5} = 0 \Rightarrow 6v_1 - 6v_2 + 6v_3 = 0$$

$$\Rightarrow v_1 - v_2 + v_3 = 0 \quad (1)$$

$$\textcircled{*} \text{ KCL @ 2: } \frac{v_2 - v_1}{5} + \frac{v_2 - v_3}{1} + 3\left(\frac{v_2 - v_1}{5}\right) = 0 \Rightarrow -4v_1 + 9v_2 - 5v_3 = 0 \quad (2)$$

$$\textcircled{*} \text{ SN: } v_1 = v_3 + 9 \quad (3)$$

$$(3) \text{ in } (1): v_3 + 9 - v_2 + v_3 = 0 \Rightarrow -v_2 + 2v_3 = -9 \quad (4)$$

$$(3) \text{ in } (2): -4v_3 - 36 + 9v_2 - 5v_3 = 0 \Rightarrow 9v_2 - 9v_3 = 36$$

$$\Rightarrow v_2 - v_3 = 4 \quad (5)$$

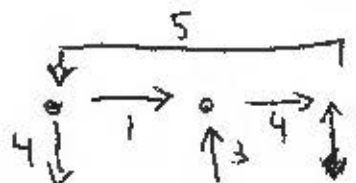
$$(4) + (5): 2v_3 - v_3 = -9 + 4 \Rightarrow v_3 = -5 \text{ V}$$

$$v_1 = 4 \text{ V} \quad \text{FROM (3)}$$

$$v_2 = -1 \text{ V} \quad \text{FROM (5)}$$

CHECK

KCL



AND

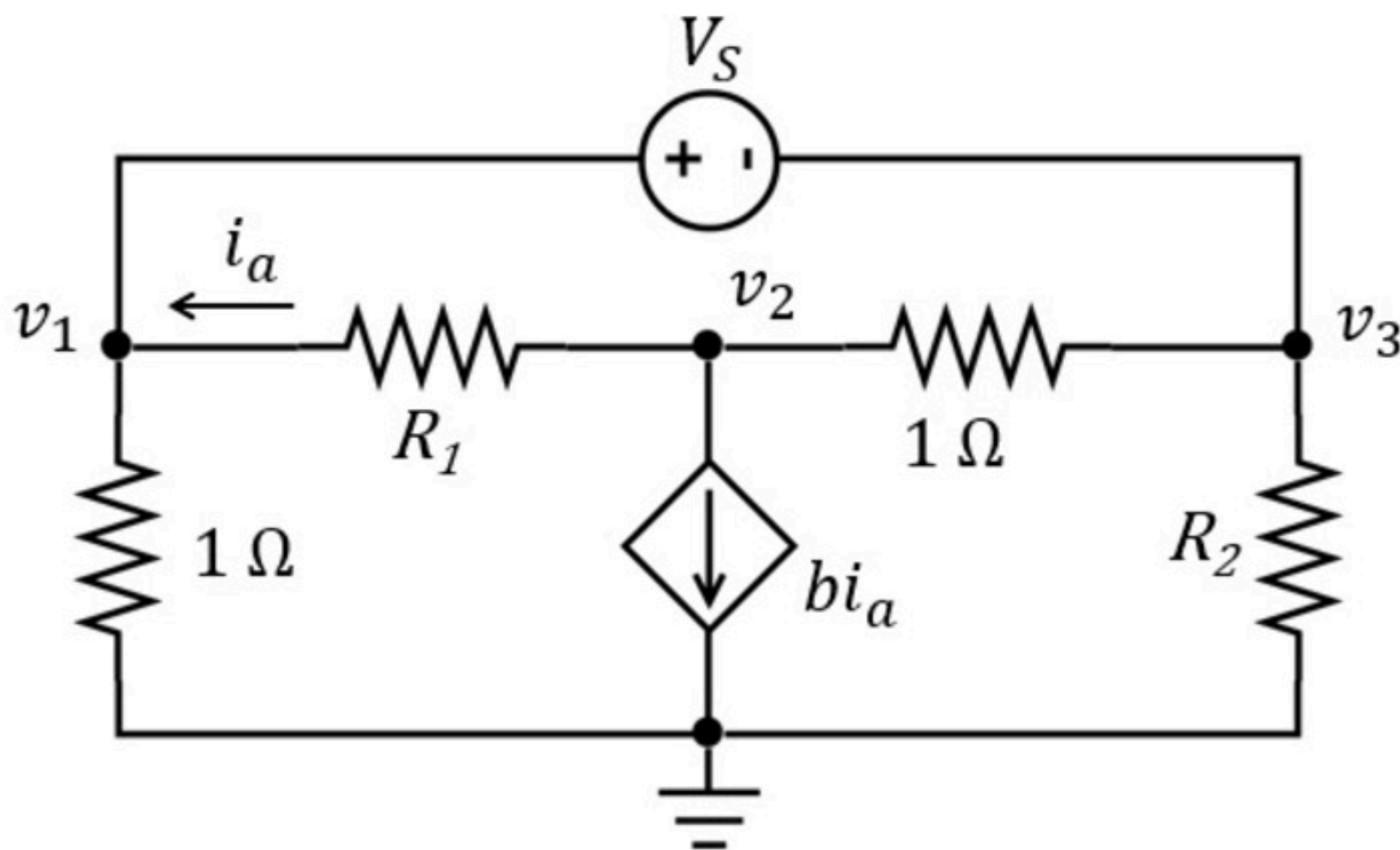
$$v_1 = v_3 + 9$$



# Nodal Mesh 004

Problem has been graded.

Find the node voltages  $v_1$ ,  $v_2$  and  $v_3$ .  
Use nodal analysis.



Given Variables:

$V_S : 9\text{ V}$

$R_1 : 5\text{ ohm}$

$R_2 : 5\text{ ohm}$

$b : 3\text{ A/A}$

Calculate the following:

$v_1\text{ (V)} :$

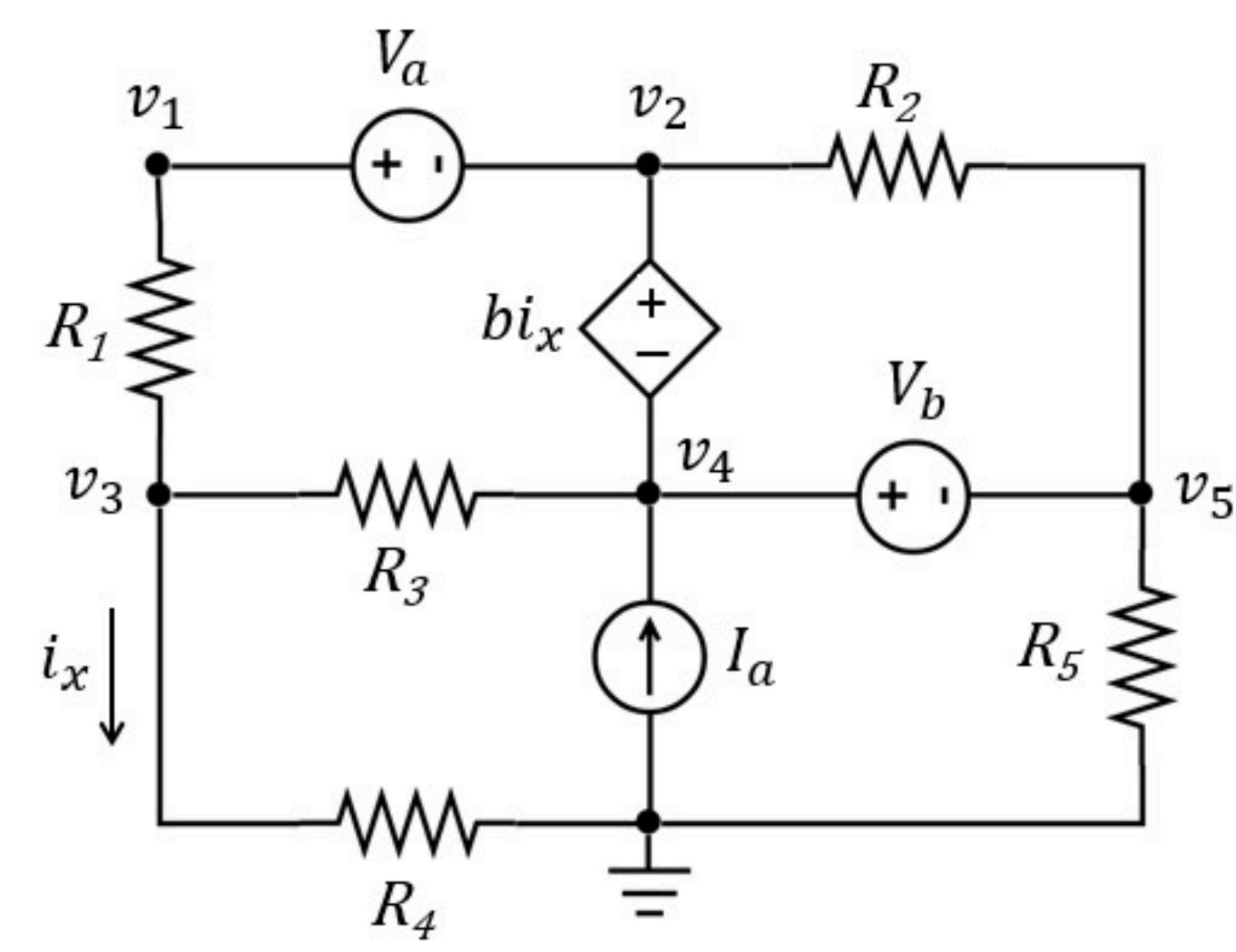
$v_2\text{ (V)} :$

$v_3\text{ (V)} :$



# Nodal Mesh 005

Problem has been graded.



Given Variables:

- R1 : 1 ohm
- R2 : 2 ohm
- R3 : 1 ohm
- R4 : 2 ohm
- R5 : 1 ohm
- Va : 1 V
- Vb : 1 V
- Ia : 4 A
- b : 1.5 V/A

Calculate the following:

v1 (V) :

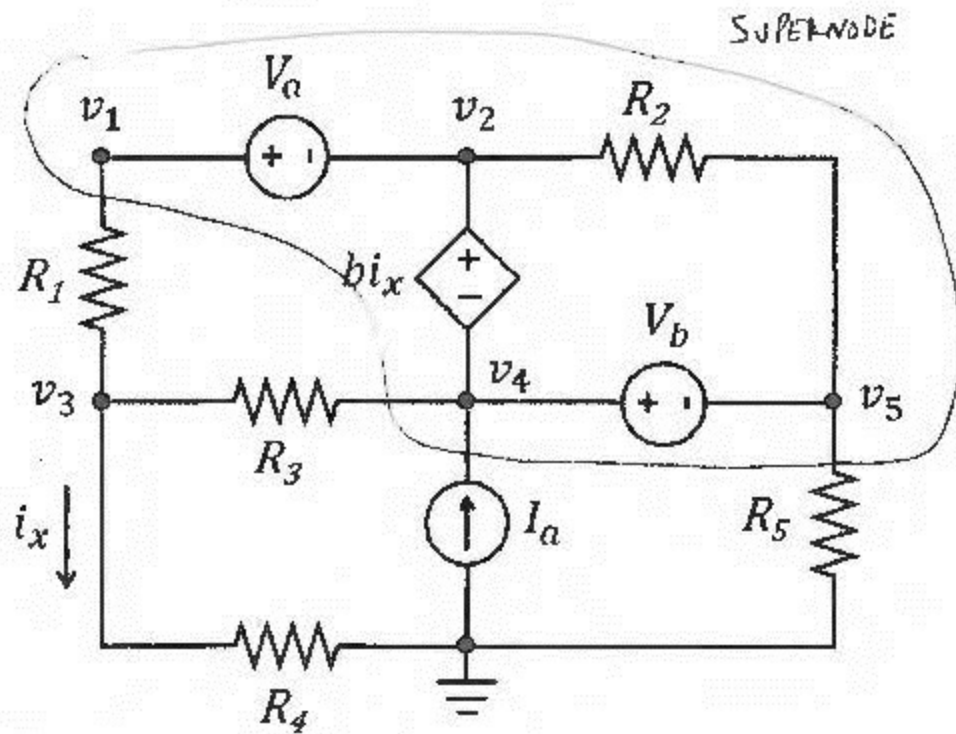
v2 (V) :

v3 (V) :

v4 (V) :

v5 (V) :

Hint: Use a supernode and move GND (and move it back).



$$R1 = 1 \Omega$$

$$R2 = 3 \Omega$$

$$R3 = 1 \Omega$$

$$R4 = 4 \Omega$$

$$R5 = 1 \Omega$$

$$V_a = -2 \text{ V}$$

$$V_b = 2 \text{ V}$$

$$I_a = 3 \text{ A}$$

$$b = 1 \text{ V/A}$$

$$\otimes \text{ KCL @ 3: } \frac{v_3 - v_1}{1} + \frac{v_3 - v_4}{1} + \frac{v_3}{3} = 0 \Rightarrow -3v_1 + 7v_3 - 3v_4 = 0 \quad (1)$$

$$\otimes \text{ KCL @ SN: } \frac{v_1 - v_3}{1} + \frac{v_4 - v_3}{1} + \frac{v_5}{1} - 3 = 0 \Rightarrow v_1 - 2v_3 + v_4 + v_5 = 3 \quad (2)$$

$$\otimes \text{ SN } V_a: v_1 = v_2 - 2 \Rightarrow v_1 = v_2 - 2 \quad (3)$$

$$\otimes \text{ SN } V_b: v_4 = v_5 + 2 \Rightarrow v_5 = v_4 - 2 \quad (4)$$

$$\otimes \text{ SN } bix: v_2 = v_4 + 1 \cdot \frac{v_3}{3} \Rightarrow v_3 = 3v_2 - 3v_4 \quad (5)$$

$$(4), (3) \text{ in } (1): -3v_2 + 6 + 21v_2 - 21v_4 - 3v_4 = 0 \Rightarrow 18v_2 - 24v_4 = -6$$

$$\Rightarrow 3v_2 - 4v_4 = -1 \quad (6)$$

$$(3), (4), (5) \text{ in } (2): v_2 - 2 - 6v_2 + 6v_4 + v_4 + v_4 - 2 = 3 \Rightarrow -5v_2 + 8v_4 = 7 \quad (7)$$

$$(6) \times 2 + (7): 6v_2 - 5v_2 = -2 + 7 \Rightarrow \boxed{v_2 = 5 \text{ V}}$$

$$\boxed{v_1 = 3 \text{ V}} \quad \text{FROM (3)}$$

$$\boxed{v_4 = 4 \text{ V}} \quad \text{FROM (6)}$$

$$\boxed{v_5 = 2 \text{ V}} \quad \text{FROM (4)}$$

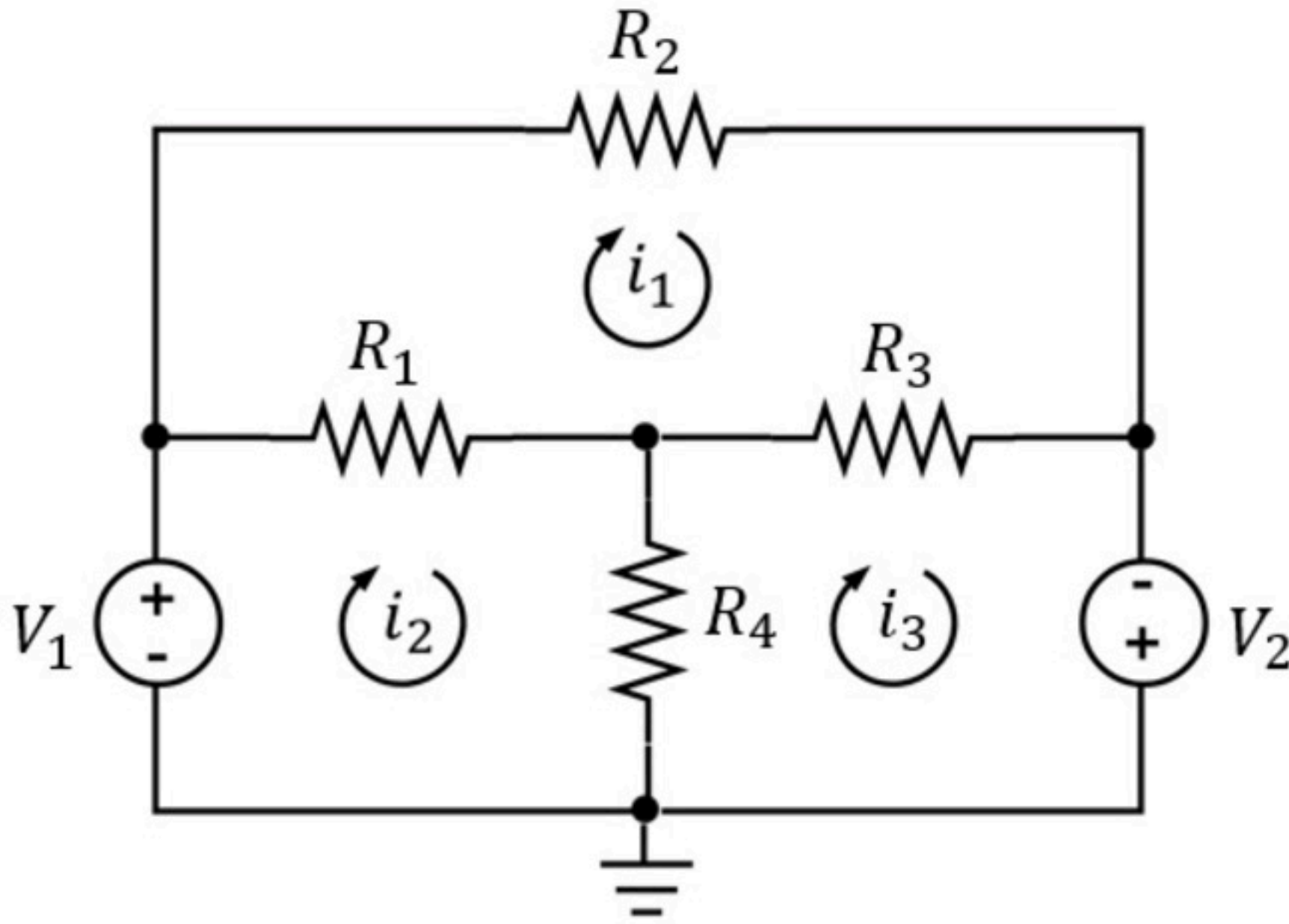
$$\boxed{v_3 = 3 \text{ V}} \quad \text{FROM (5)}$$

CHECK KCL

# Nodal Mesh 006

Problem has been graded.

Find the mesh currents  $i_1$ ,  $i_2$ , and  $i_3$ .



Given Variables:

$R_1$  : 1 ohm

$R_2$  : 1 ohm

$R_3$  : 2 ohm

$R_4$  : 1 ohm

$V_1$  : 4 V

$V_2$  : 3 V

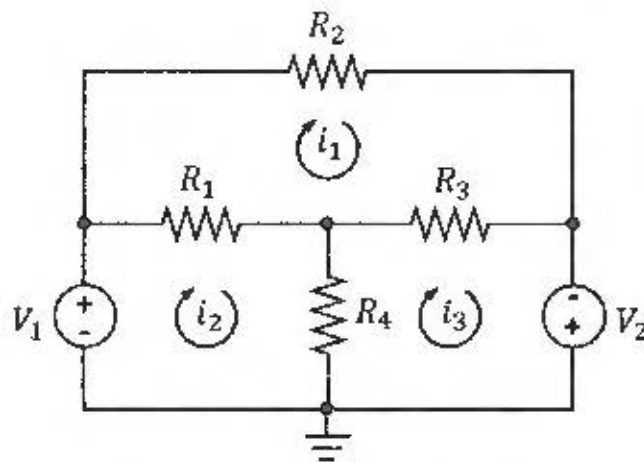
Calculate the following:

$i_1$  (A) :

$i_2$  (A) :

$i_3$  (A) :

Find the mesh currents  $i_1$ ,  $i_2$ , and  $i_3$ .



$$R1 = 1 \Omega$$

$$R2 = 1 \Omega$$

$$R3 = 2 \Omega$$

$$R4 = 1 \Omega$$

$$V1 = 4 \text{ V}$$

$$V2 = 3 \text{ V}$$

$$\textcircled{*} \text{ MESH 1: } 1 \cdot i_1 + 2(i_1 - i_3) + 1(i_1 - i_2) = 0 \Rightarrow 4i_1 - i_2 - 2i_3 = 0 \quad (1)$$

$$\textcircled{*} \text{ MESH 2: } -4 + 1(i_2 - i_1) + 1(i_2 - i_3) = 0 \Rightarrow -i_1 + 2i_2 - i_3 = 4 \quad (2)$$

$$\textcircled{*} \text{ MESH 3: } 1 \cdot (i_3 - i_2) + 2 \cdot (i_3 - i_1) - 3 = 0 \Rightarrow -2i_1 - i_2 + 3i_3 = 3 \quad (3)$$

$$(1) \cdot i_2 = 4i_1 - 2i_3$$

$$(1) \text{ in } (2): -i_1 + 8i_1 - 4i_3 - i_3 = 4 \Rightarrow 7i_1 - 5i_3 = 4 \quad (4)$$

$$(1) \text{ in } (3): -2i_2 - 4i_1 + 2i_3 + 3i_3 = 3 \Rightarrow -6i_1 + 5i_3 = 3 \quad (5)$$

(4) + (5):

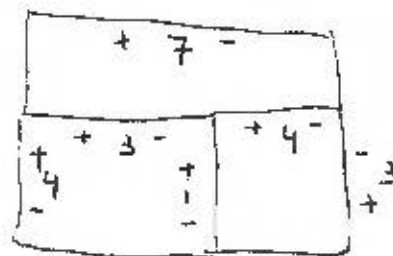
$$i_1 = 7 \text{ A}$$

$$i_3 = 9 \text{ A}$$

$$i_2 = 10 \text{ A}$$

CHECK

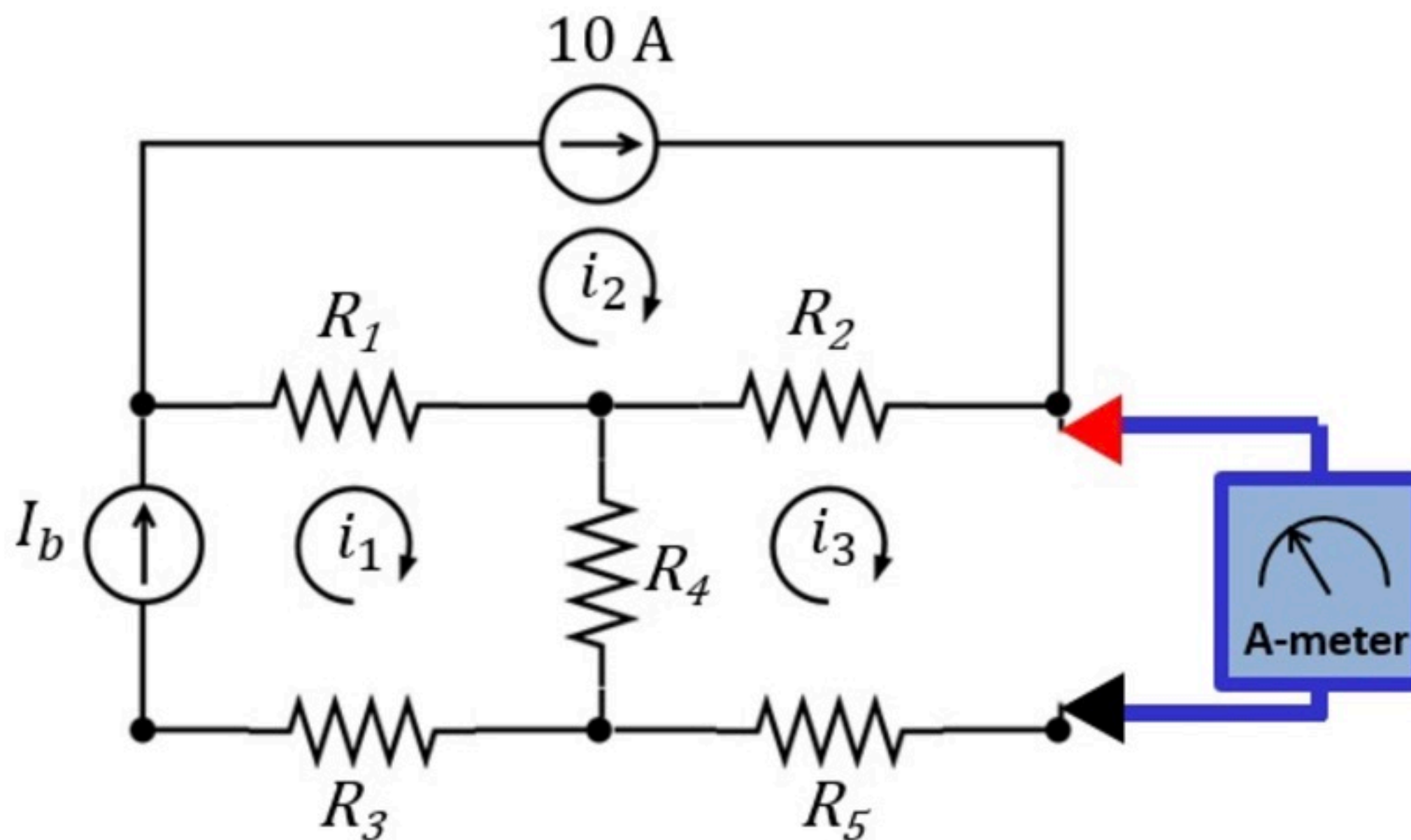
KVL



# Nodal Mesh 007

Problem has been graded.

Given the ammeter reading  $X$ ,  
find the value of resistance  $R_4$ .



Given Variables:

$R_1$  : 2 ohm

$R_2$  : 3 ohm

$R_3$  : 2 ohm

$R_5$  : 5 ohm

$X$  : 3 A

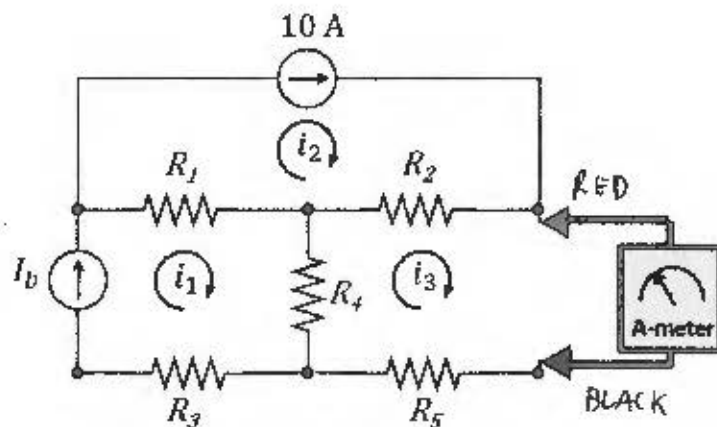
$I_b$  : 1 A

Calculate the following:

$R_4$  (ohm) :

Hint: Find the voltage over  $R_4$  using KVL in any loop

Given the ammeter reading  $X$ ,  
find the value of resistance  $R_4$ .



$$R_1 = 19 \, \Omega$$

$$R_2 = 2 \, \Omega$$

$$R_3 = 3 \, \Omega$$

$$R_5 = 2 \, \Omega$$

$$X = 3 \, \text{A}$$

$$I_b = 1 \, \text{A}$$

$$i_3 = X = 3$$

$$i_1 = I_b = 1$$

$$i_2 = 10$$

⊗ KVL MESH 3.  $R_4(i_3 - i_1) + R_2(i_3 - i_2) + 0 + R_5 i_3 = 0$

$$R_4 \cdot 2 + 2 \cdot (-7) + 2 \cdot 3 = 0$$

$$\boxed{R_4 = 4 \, \Omega}$$

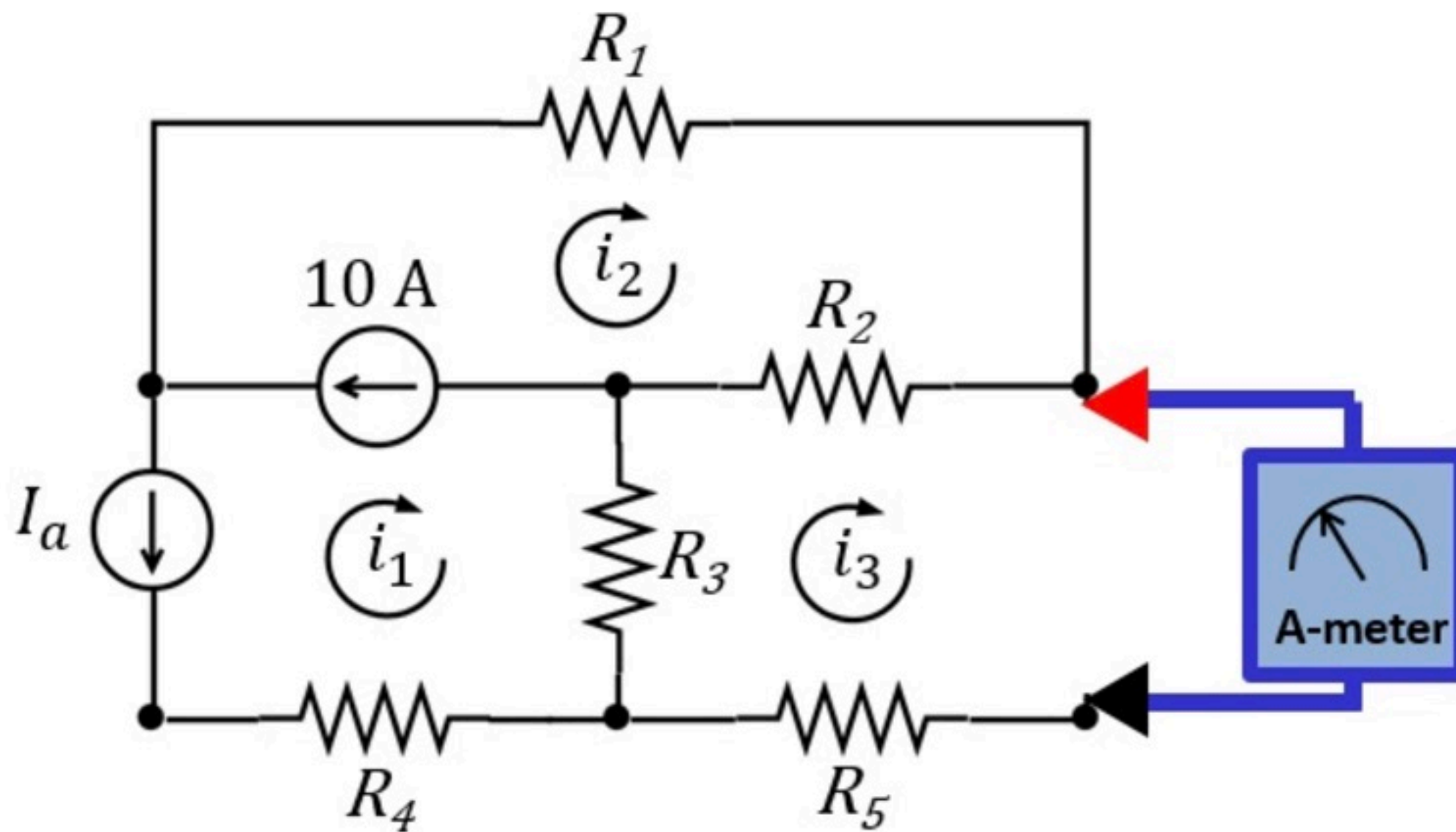
A-METER



# Nodal Mesh 008

Problem has been graded.

Given the ammeter reading  $X$ ,  
find the value of resistance  $R_3$ .



Given Variables:

$R_1$  : 2 ohm

$R_2$  : 2 ohm

$R_4$  : 2 ohm

$R_5$  : 2 ohm

$X$  : 2 A

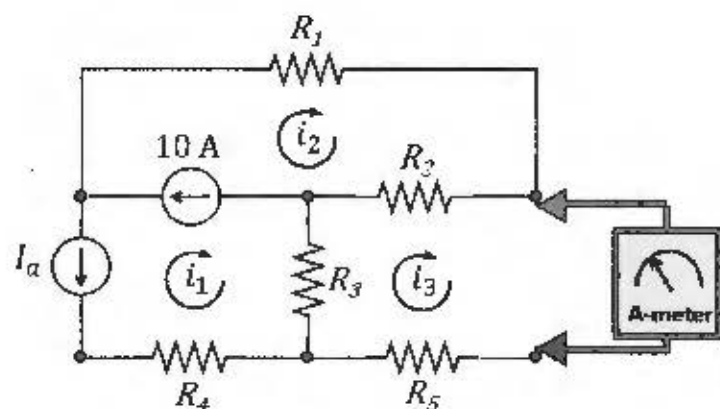
$I_a$  : 2 A

Calculate the following:

$R_3$  (ohm) :



Given the ammeter reading  $X$ ,  
find the value of resistance  $R_3$ .



$$R_1 = 23 \, \Omega$$

$$R_2 = 2 \, \Omega$$

$$R_4 = 34 \, \Omega$$

$$R_5 = 2 \, \Omega$$

$$X = 2 \, \text{A}$$

$$I_a = 2 \, \text{A}$$

$$i_3 = X = 2$$

$$i_1 = -I_a = -2$$

$$i_1 - i_2 = -10 \Rightarrow i_2 = i_1 + 10 = 8$$

$$\textcircled{*} \text{ KVL IN MESH 3. } R_3(i_3 - i_1) + R_2(i_3 - i_2) + 0 + R_5 i_3 = 0$$

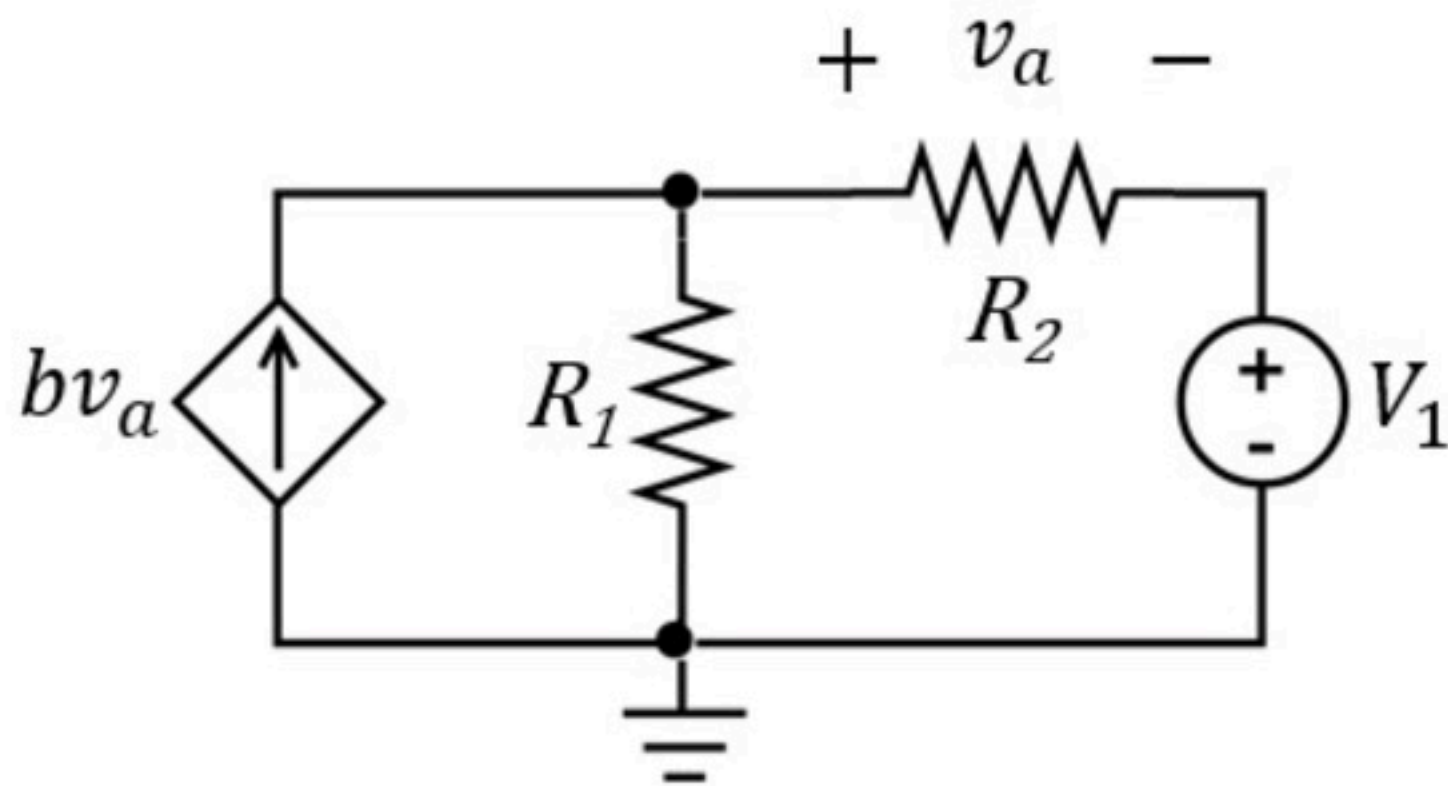
$$R_3 \cdot 4 + 2 \cdot (-6) + 2 \cdot 2 = 0$$

$$\boxed{R_3 = 2 \, \Omega}$$

# Nodal Mesh 009

Problem has been graded.

Find the voltage  $v_a$ .  
Use mesh analysis.



Given Variables:

$R_1$  : 3 ohm

$R_2$  : 4 ohm

$b$  : 1 A/V

$V_1$  : 10 V

Calculate the following:

$v_a$  (V) :

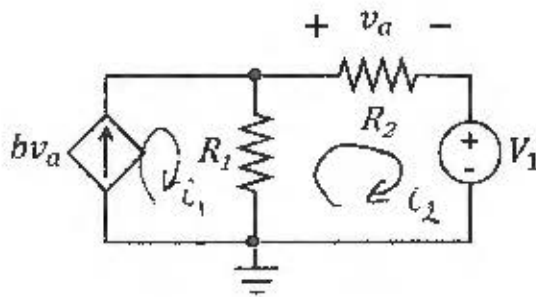
Find the voltage  $v_a$ .  
Use mesh analysis.

$$R_1 = 3 \Omega$$

$$R_2 = 2 \Omega$$

$$b = 1.5 \text{ A/V}$$

$$V_1 = 10 \text{ V}$$



$$(*) \quad i_1 = b \cdot v_a = b R_2 i_2 = 3 i_2$$

$$(*) \quad \text{KVL IN (2):} \quad 3(\underbrace{i_2 - i_1}_{-2i_2}) + 2 \cdot i_2 + 10 = 0$$

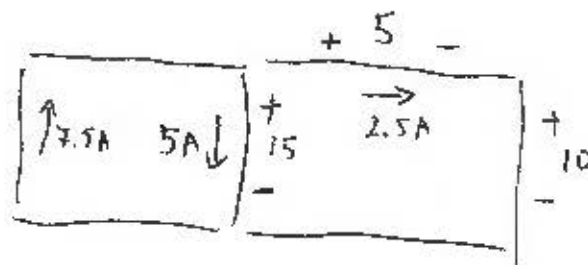
$$-4 i_2 = -10$$

$$i_2 = 2.5 \text{ A}$$

$$i_1 = 7.5 \text{ A}$$

$$v_a = i_2 \cdot R_2 = 5 \text{ V} \Rightarrow \boxed{v_a = 5 \text{ V}}$$

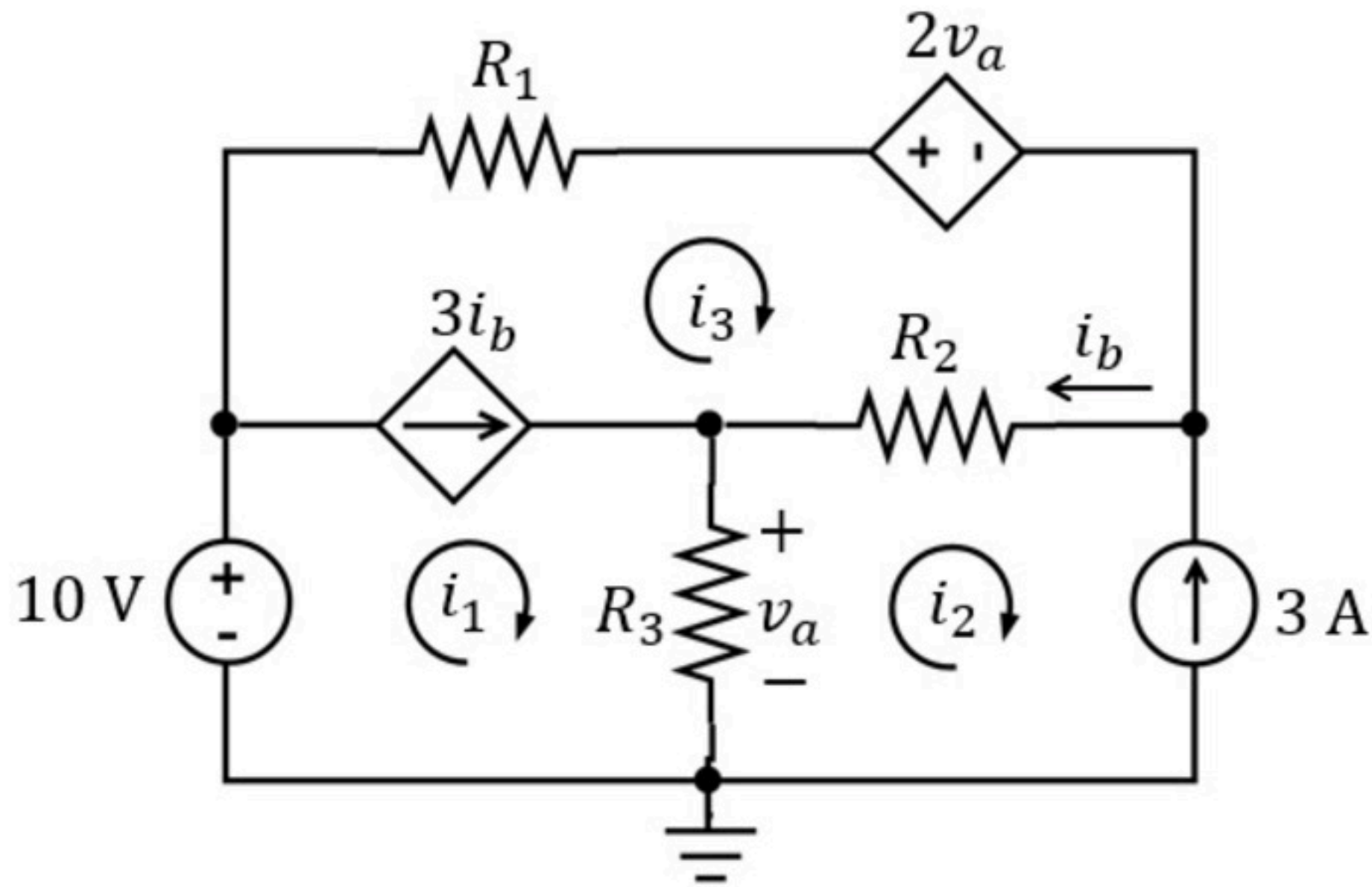
CHECK . KVL



# Nodal Mesh 010

Problem has been graded.

Find the mesh currents  $i_1$ ,  $i_2$ , and  $i_3$ .



Given Variables:

$R_1$  : 8 ohm

$R_2$  : 2 ohm

$R_3$  : 2 ohm

Calculate the following:

$i_1$  (A) :

$i_2$  (A) :

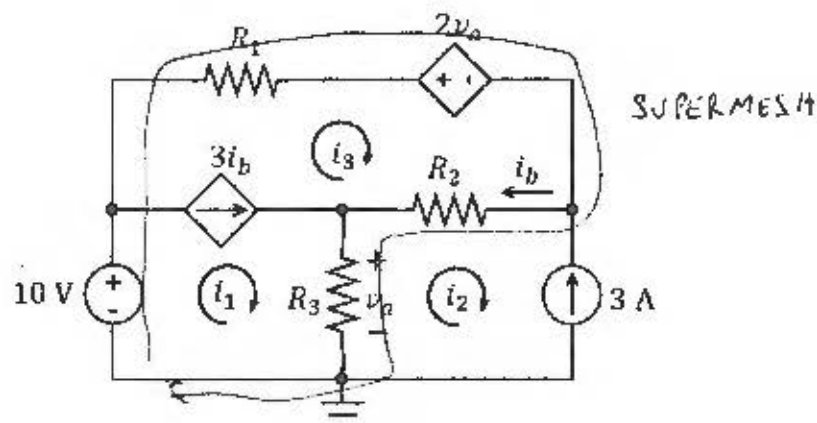
$i_3$  (A) :

Find the mesh currents  $i_1$ ,  $i_2$ , and  $i_3$ .

$$R_1 = 16 \Omega$$

$$R_2 = 1 \Omega$$

$$R_3 = 1 \Omega$$



$$\otimes \quad i_2 = -3 \text{ A}$$

$$\otimes \quad i_1 - i_3 = 3 \cdot i_b = 3(i_3 - i_2) = 3i_3 + 9 \Rightarrow i_1 = 4i_3 + 9 \quad (1)$$

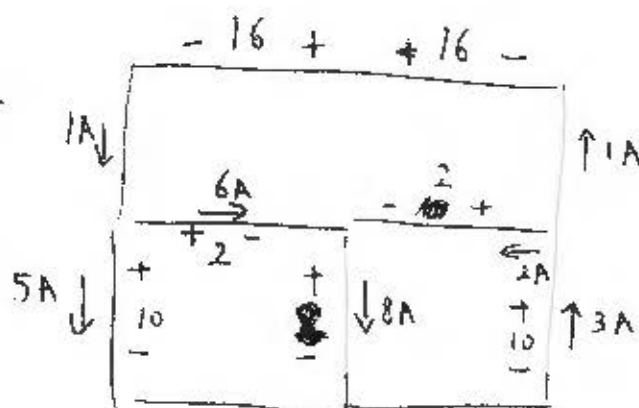
$$\otimes \quad \text{KVL SUPERMESH: } -10 + 16 \cdot i_3 + 2 \cdot (R_3)(i_1 + 3) + 1(i_3 + 3) + 1 \cdot (i_1 + 3) = 0$$

$$\Rightarrow -10 + 16i_3 + 8i_3 + 24 + i_3 + 3 + 4i_3 + 12 = 0$$

$$\Rightarrow 29i_3 = -29$$

$$\Rightarrow \boxed{i_3 = -1 \text{ A}} \quad \boxed{i_1 = 5 \text{ A}}$$

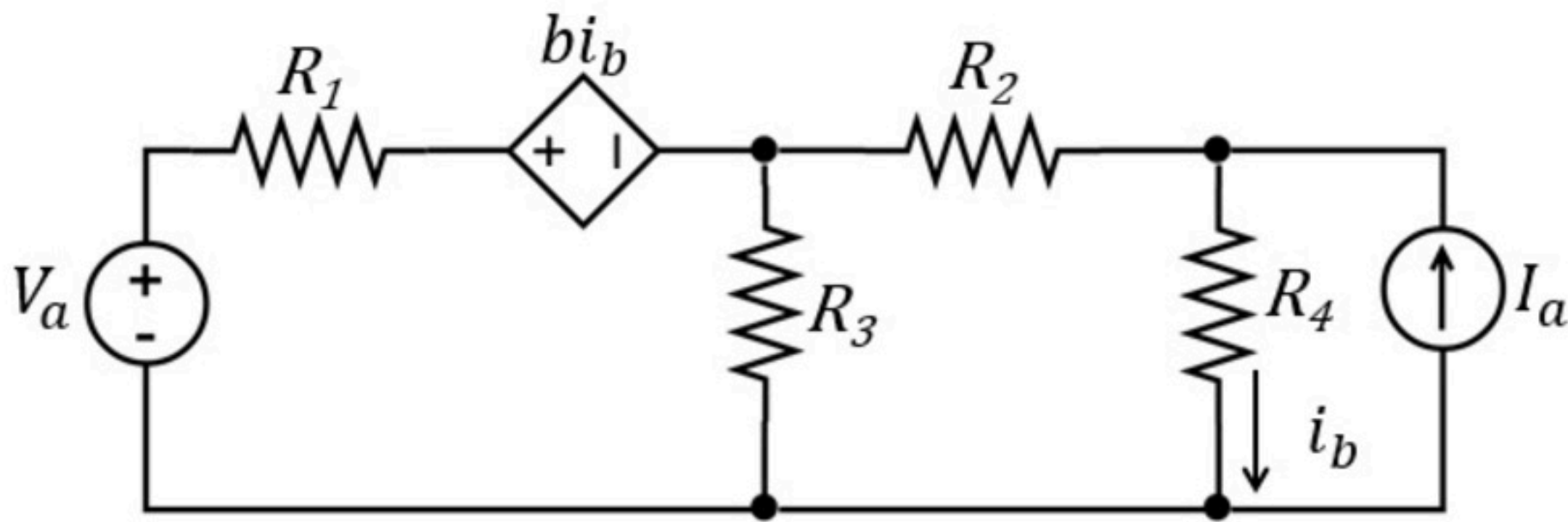
CHECK KVL



# Nodal Mesh 011

Problem has been graded.

Find the value of the current  $i_b$ .  
Use mesh analysis.



Given Variables:

$V_a$  : 16 V

$R_1$  : 2 ohm

$R_2$  : 6 ohm

$R_3$  : 8 ohm

$R_4$  : 1 ohm

$b$  : 2 V/A

$I_a$  : 1 A

Calculate the following:

$i_b$  (A) :

Hint: Do we need to use a supermesh?

Find the value of the current  $i_b$ .  
Use mesh analysis.

$$V_a = 16 \text{ V}$$

$$R_1 = 2 \Omega$$

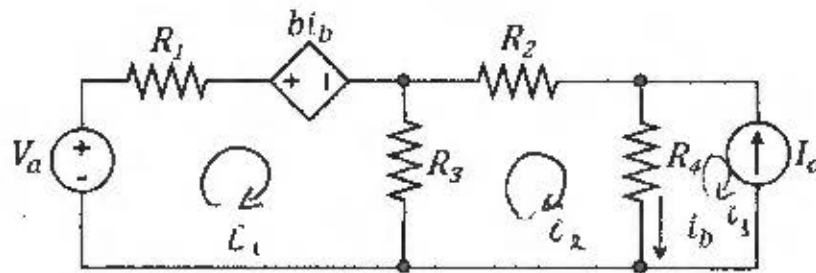
$$R_2 = 6 \Omega$$

$$R_3 = 8 \Omega$$

$$R_4 = 1 \Omega$$

$$b = 2 \text{ V/A}$$

$$I_a = 1 \text{ A}$$



$$\textcircled{*} \quad i_3 = -I_a = -1 \text{ A}$$

$$i_b = i_2 - i_3 = i_2 + 1$$

$$\textcircled{*} \quad \text{MESH 1: } -16 + 2 \cdot i_1 + 2 \cdot i_b + 8(i_1 - i_2) = 0$$

$$-16 + 2i_1 + 2i_2 + 2 + 8i_1 - 8i_2 = 0$$

$$10i_1 - 6i_2 = 14$$

$$5i_1 - 3i_2 = 7 \quad (1)$$

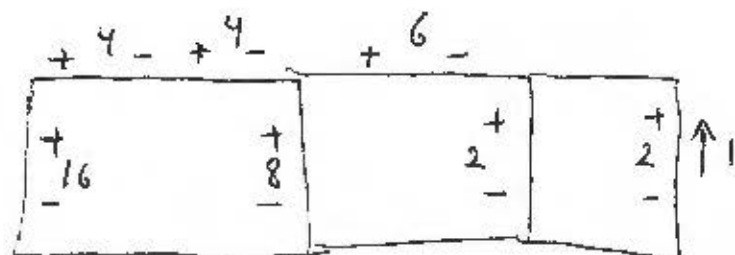
$$\textcircled{*} \quad \text{MESH 2: } 8(i_2 - i_1) + 6i_2 + 1 \cdot (i_2 + 1) = 0$$

$$-8i_1 + 15i_2 = -1 \quad (2)$$

$$5 \times (1) + (2): 17i_1 = 34 \Rightarrow i_1 = 2 \text{ A} \Rightarrow i_2 = 1 \text{ A}$$

$$i_b = i_2 + 1 \Rightarrow \boxed{i_b = 2 \text{ A}}$$

CHECK KVL



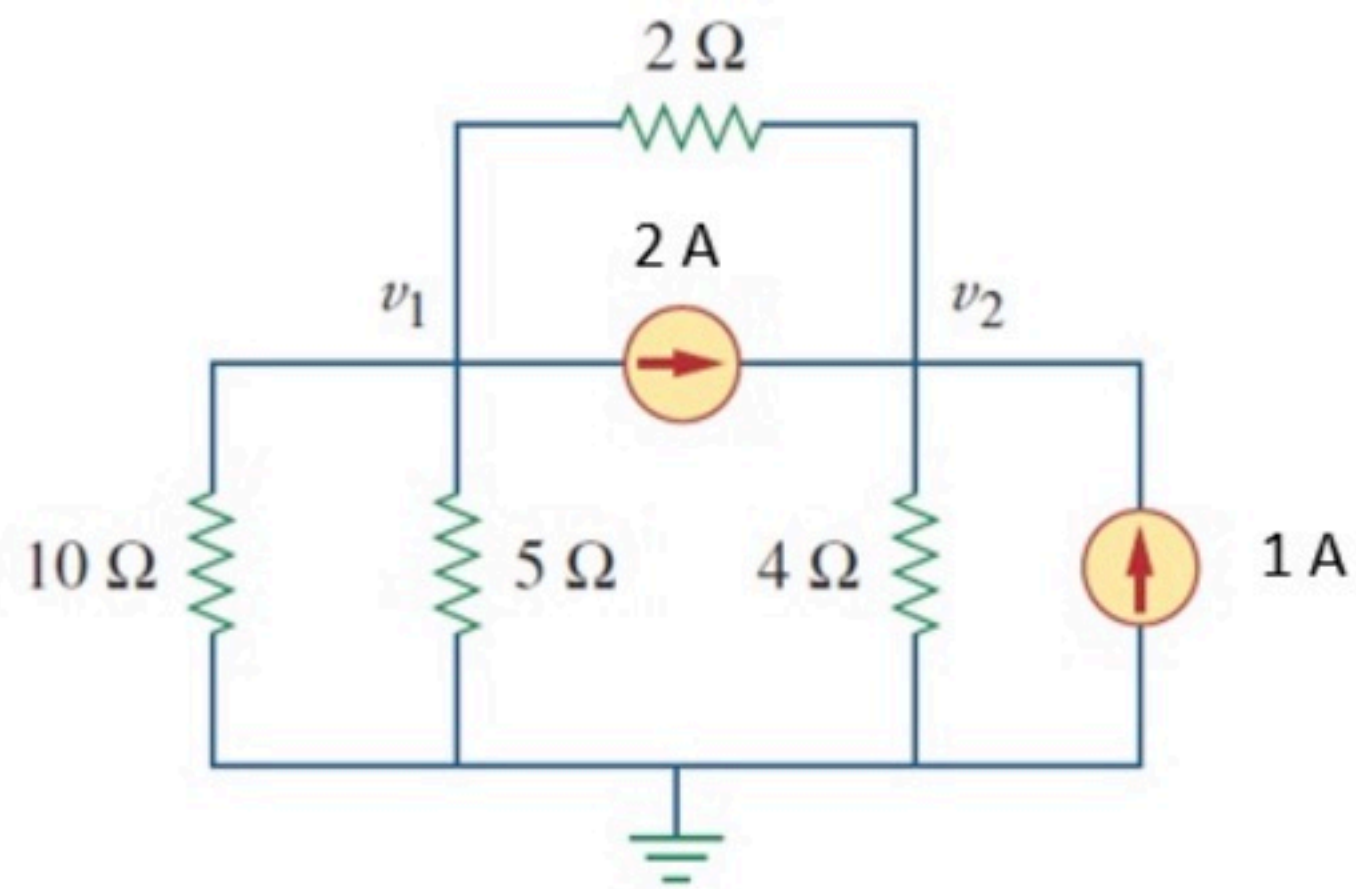


# PP - Nodal Mesh 001

Problem has been graded.

Find  $v_1$  and  $v_2$ . Solve using nodal analysis.

For extra practice: Afterwards solve again using mesh analysis.



Given Variables:

...

Calculate the following:

$v_1$  (V) :

0

✓

$v_2$  (V) :

4

✓

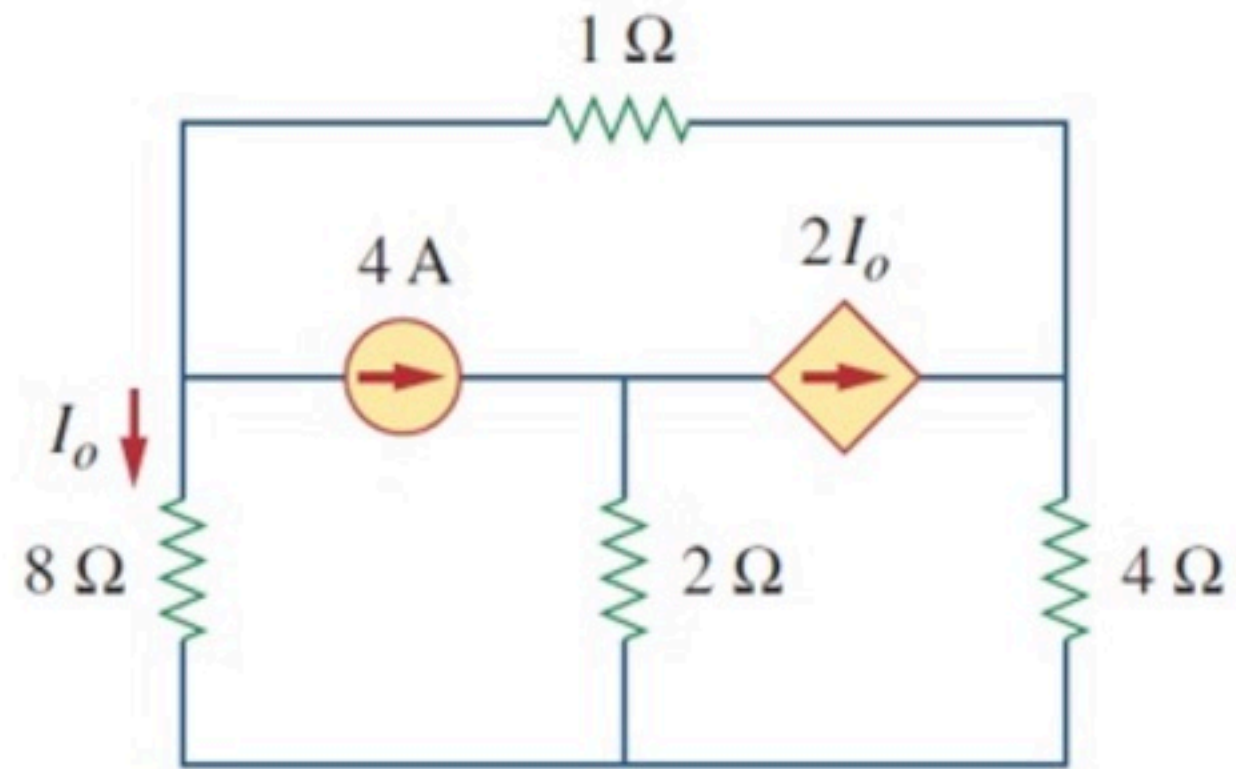
Hint: No supernodes

# PP - Nodal Mesh 002

Problem has been graded.

Find  $I_o$ . Solve using nodal analysis.

For extra practice: Afterwards solve again using mesh analysis.



Given Variables:

...

Calculate the following:

$I_o$  (A) :

-4



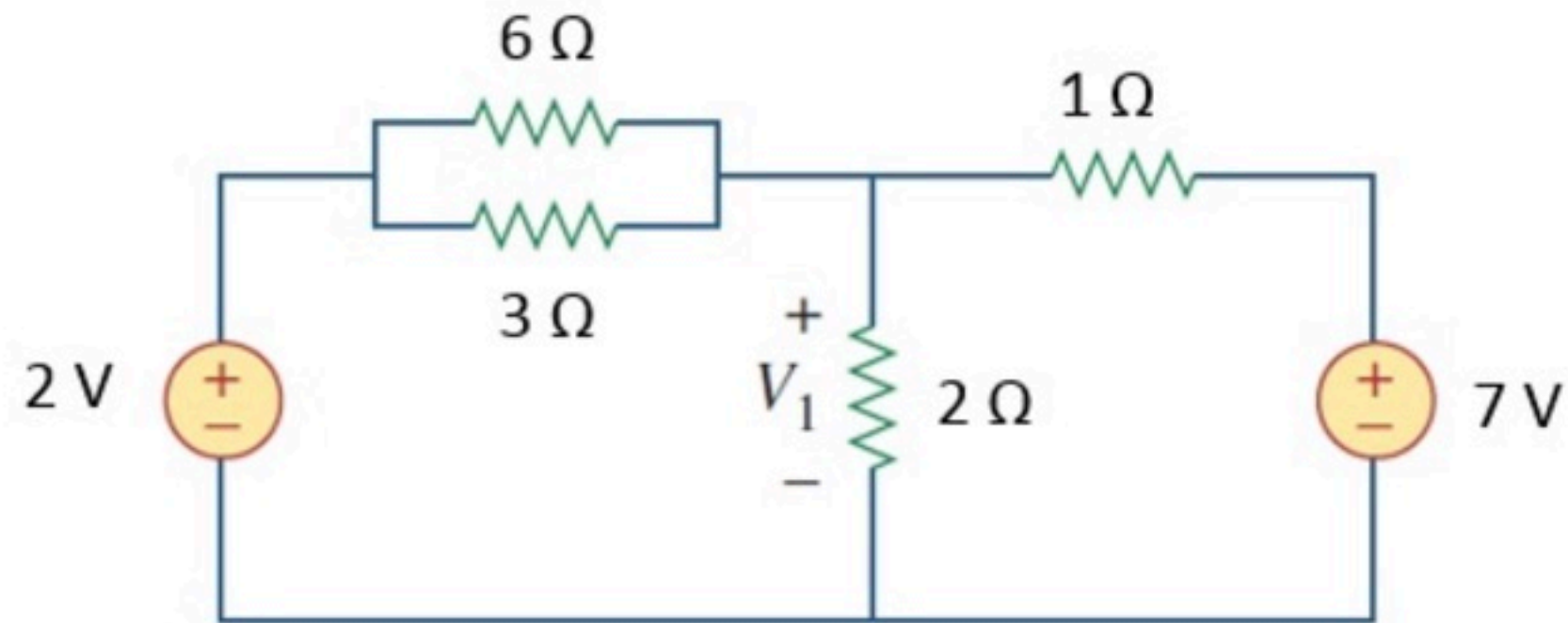
Hint: Write  $I_o$  as a function of the node voltages

# PP - Nodal Mesh 003

Problem has been graded.

Find  $V_1$ . Solve using nodal analysis.

For extra practice: Afterwards solve again using mesh analysis.



Given Variables:

...

Calculate the following:

$V_1$  (V) :

4



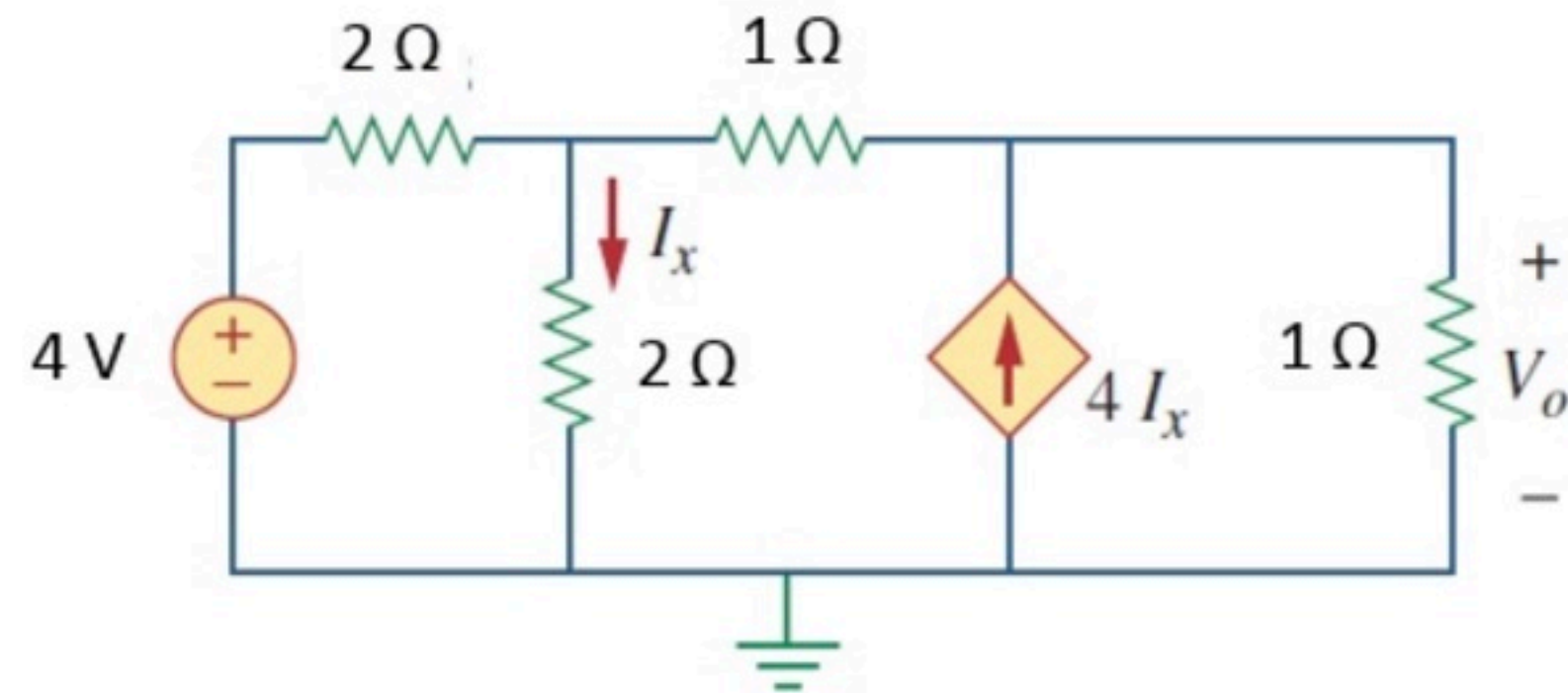
Hint: Choose GND strategically

# PP - Nodal Mesh 004

Problem has been graded.

Find  $V_o$ . Solve using nodal analysis.

For extra practice: Afterwards solve again using mesh analysis.



Given Variables:

...

Calculate the following:

$V_o$  (V) :

6



Hint: Express  $I_x$  as a function of node voltages

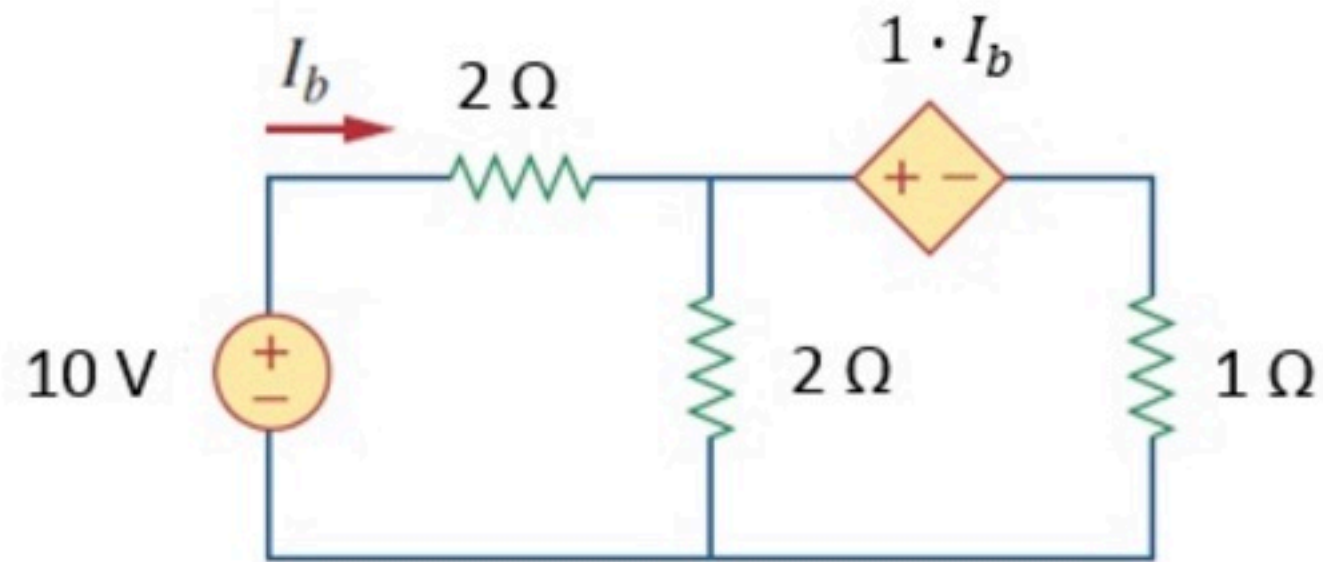


# PP - Nodal Mesh 005

Problem has been graded.

Find  $I_b$ . Solve using nodal analysis.

For extra practice: Afterwards solve again using mesh analysis.



Given Variables:

...

Calculate the following:

$I_b$  (A) :

3



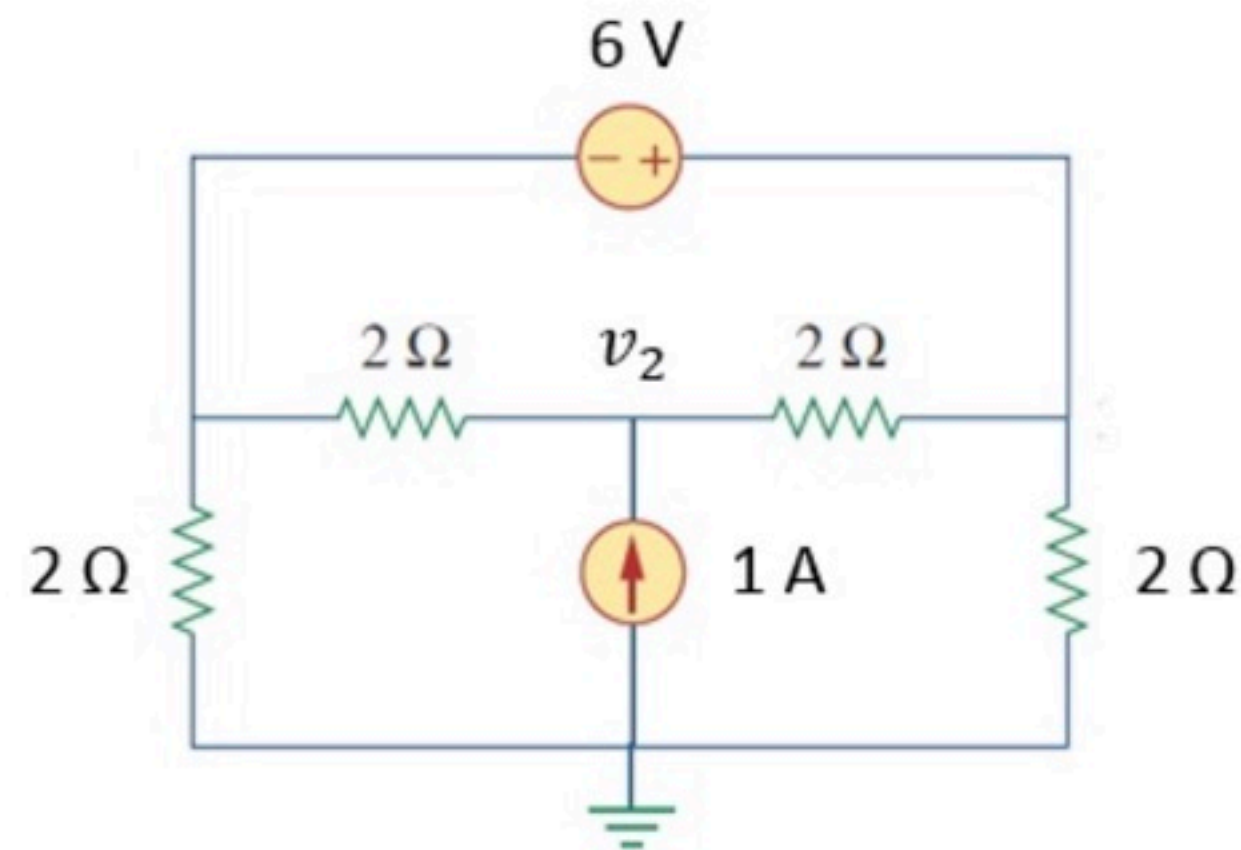
Hint: Need to use a supernode

# PP - Nodal Mesh 006

Problem has been graded.

Find  $v_2$ . Solve using nodal analysis.

For extra practice: Afterwards solve again using mesh analysis.



Given Variables:

...

Calculate the following:

$v_2$  (V) :

2



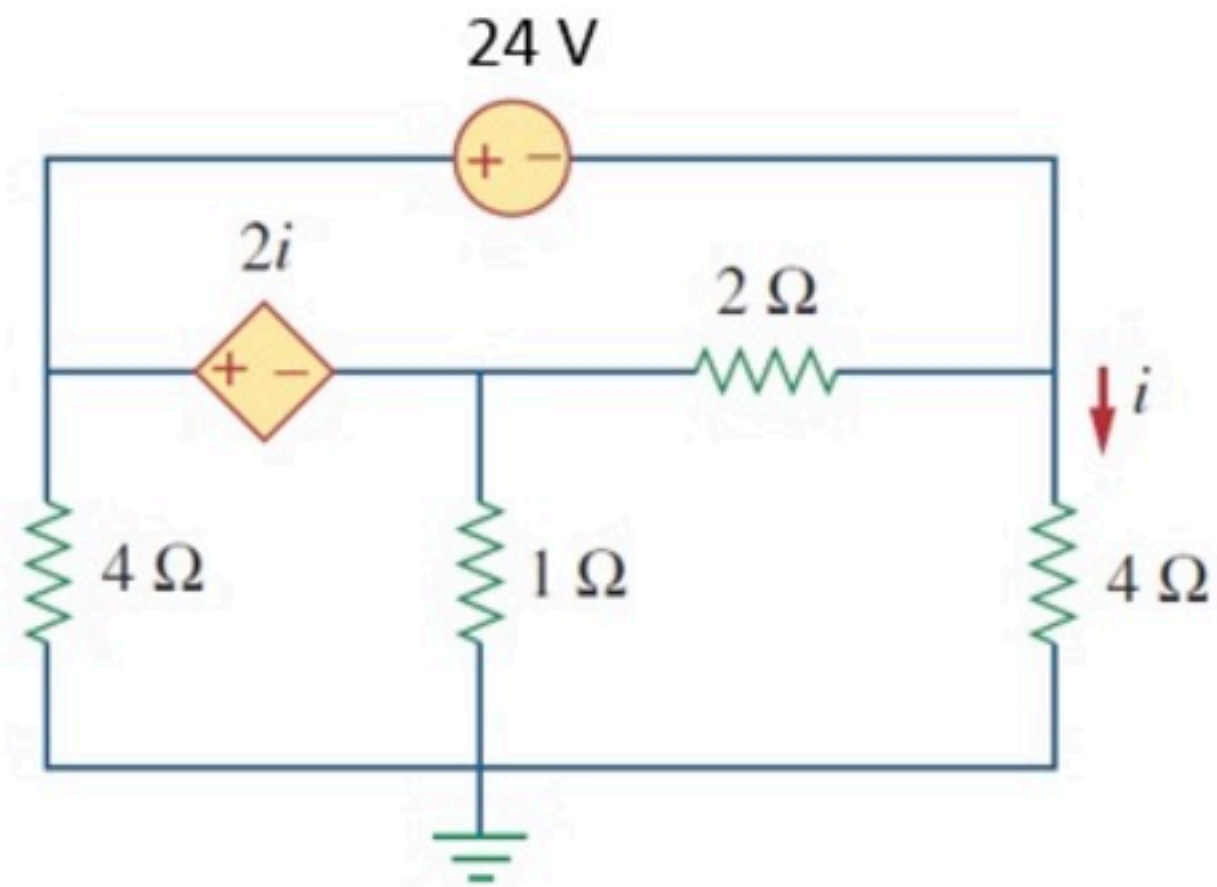
Hint: Use supernode or move GND

# PP - Nodal Mesh 007

Problem has been graded.

Find  $i$ . Solve using nodal analysis.

For extra practice: Afterwards solve again using mesh analysis.



Given Variables:

...

Calculate the following:

$i$  (A) :

-7.5



Hint: Use supernode or move GND

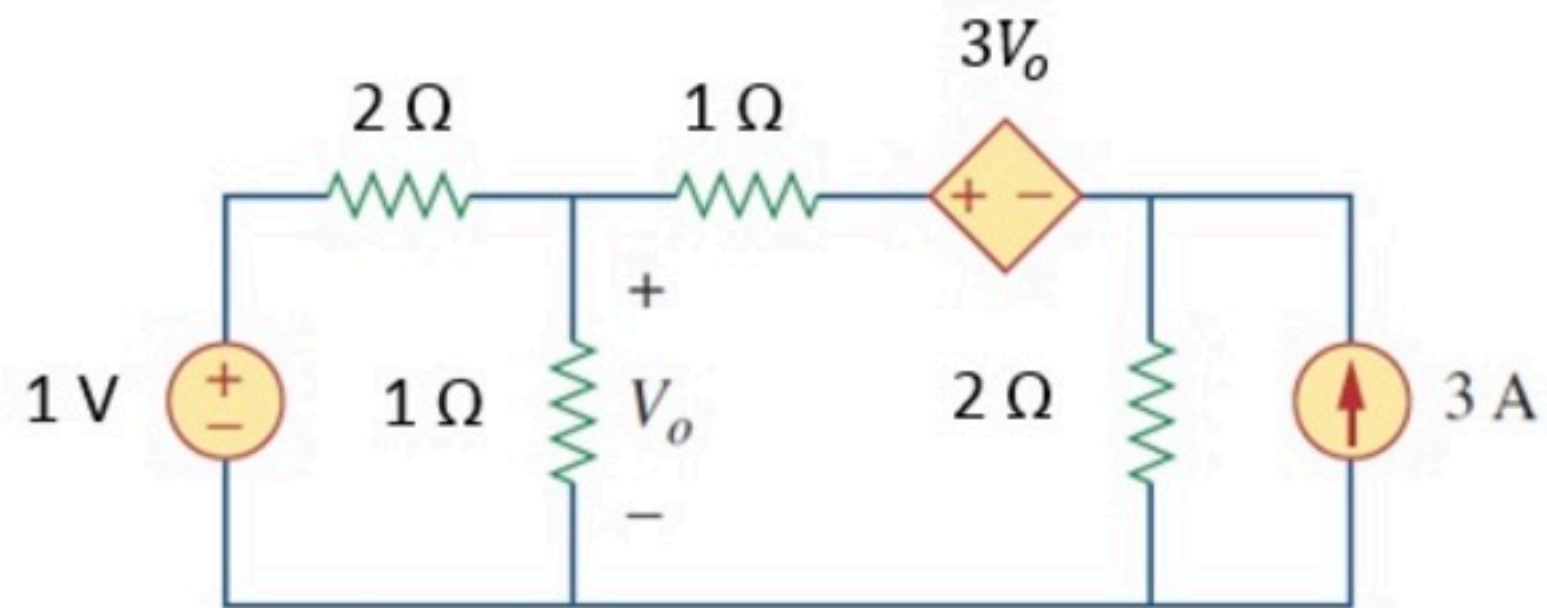


# PP - Nodal Mesh 008

Problem has been graded.

Find  $V_o$ . Solve using nodal analysis.

For extra practice: Afterwards solve again using mesh analysis.



Given Variables:

...

Calculate the following:

$V_o$  (V) :

3



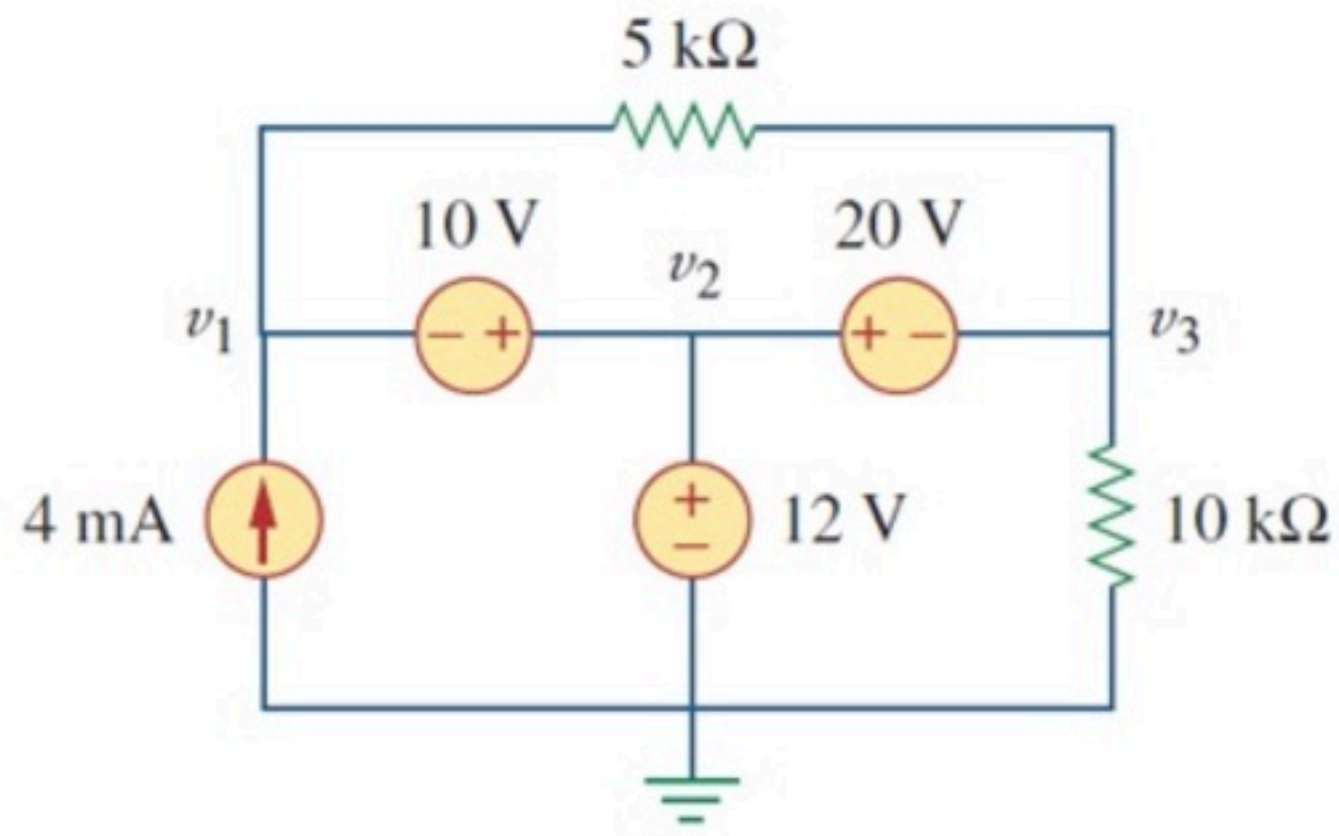
Hint: Use supernode

# PP - Nodal Mesh 009

Problem has been graded.

Find  $v_1$ ,  $v_2$  and  $v_3$ . Solve using nodal analysis.

For extra practice: Afterwards solve again using mesh analysis.



Given Variables:

...

Calculate the following:

$v_1$  (V) :

2



$v_2$  (V) :

12



$v_3$  (V) :

-8



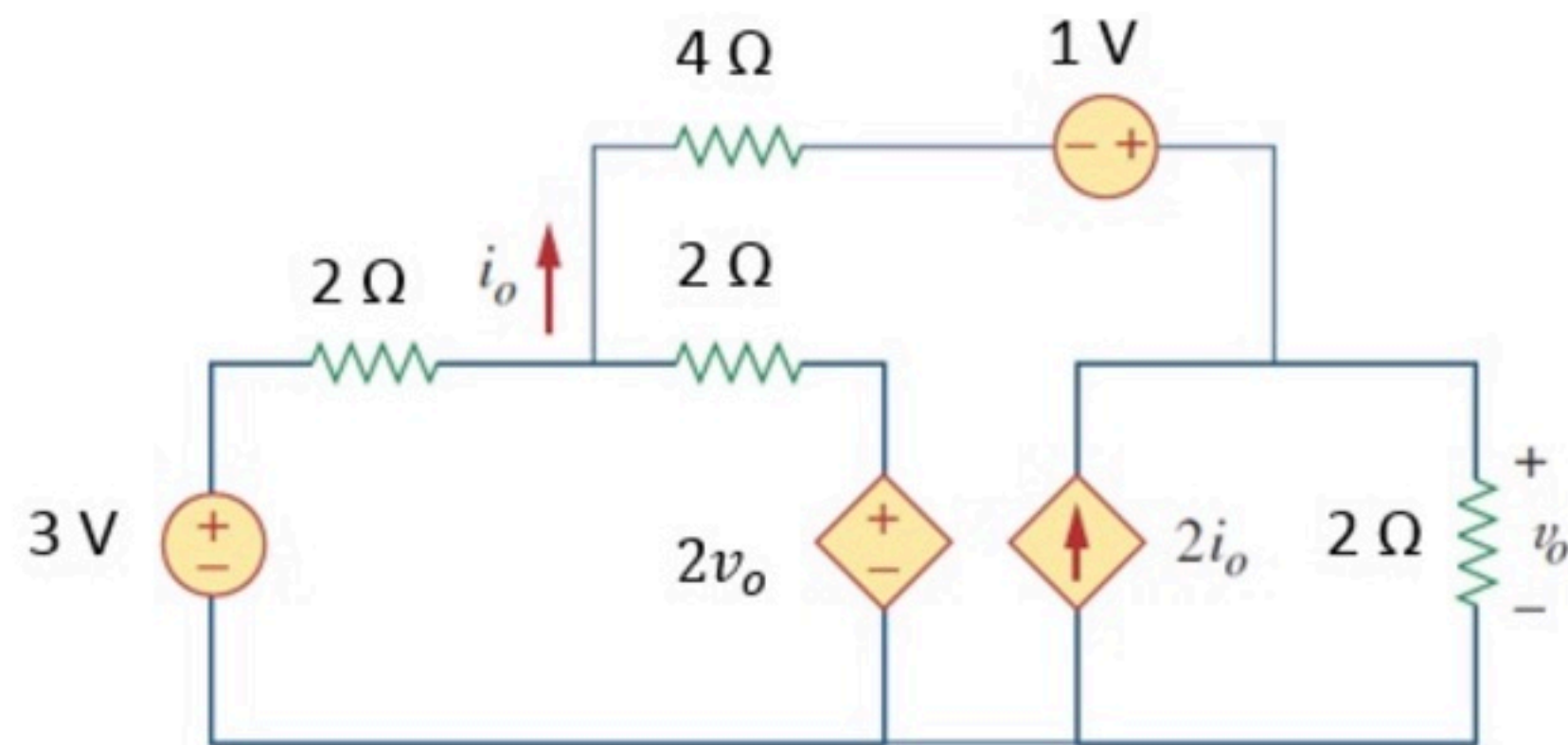
Hint: Check the V-sources

# PP - Nodal Mesh 010

Problem has been graded.

Find  $v_o$  and  $i_o$ . Solve using nodal analysis.

For extra practice: Afterwards solve again using mesh analysis.



Given Variables:

...

Calculate the following:

$v_o$  (V) :

3



$i_o$  (A) :

0.5



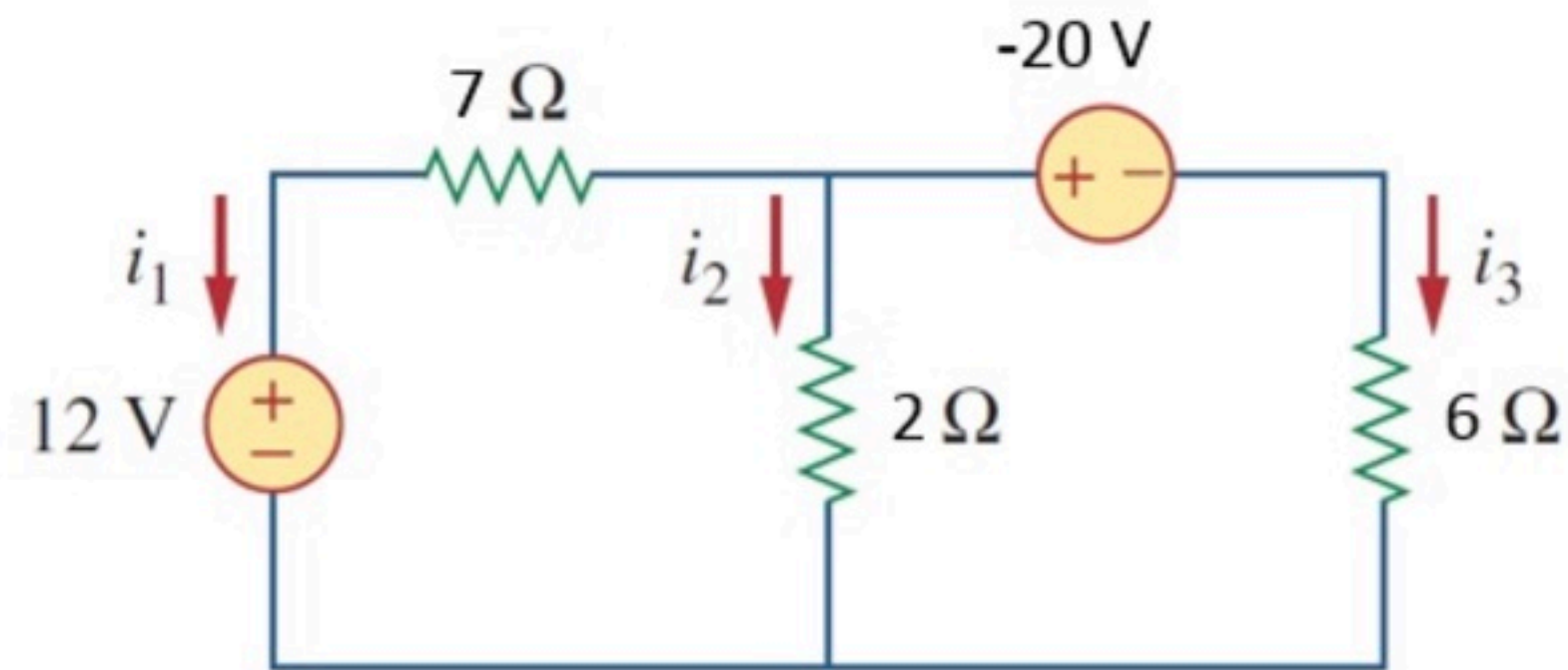
Hint: Select GND strategically and use supernode

# PP Nodal Mesh 011

Problem has been graded.

Find the currents  $i_1$ ,  $i_2$ , and  $i_3$ . Solve using mesh analysis.

For extra practice: Afterwards solve again using nodal analysis.



Given Variables:

...

Calculate the following:

$i_1$  (A) :

-2



$i_2$  (A) :

-1



$i_3$  (A) :

3



Hint: Define 2 mesh currents

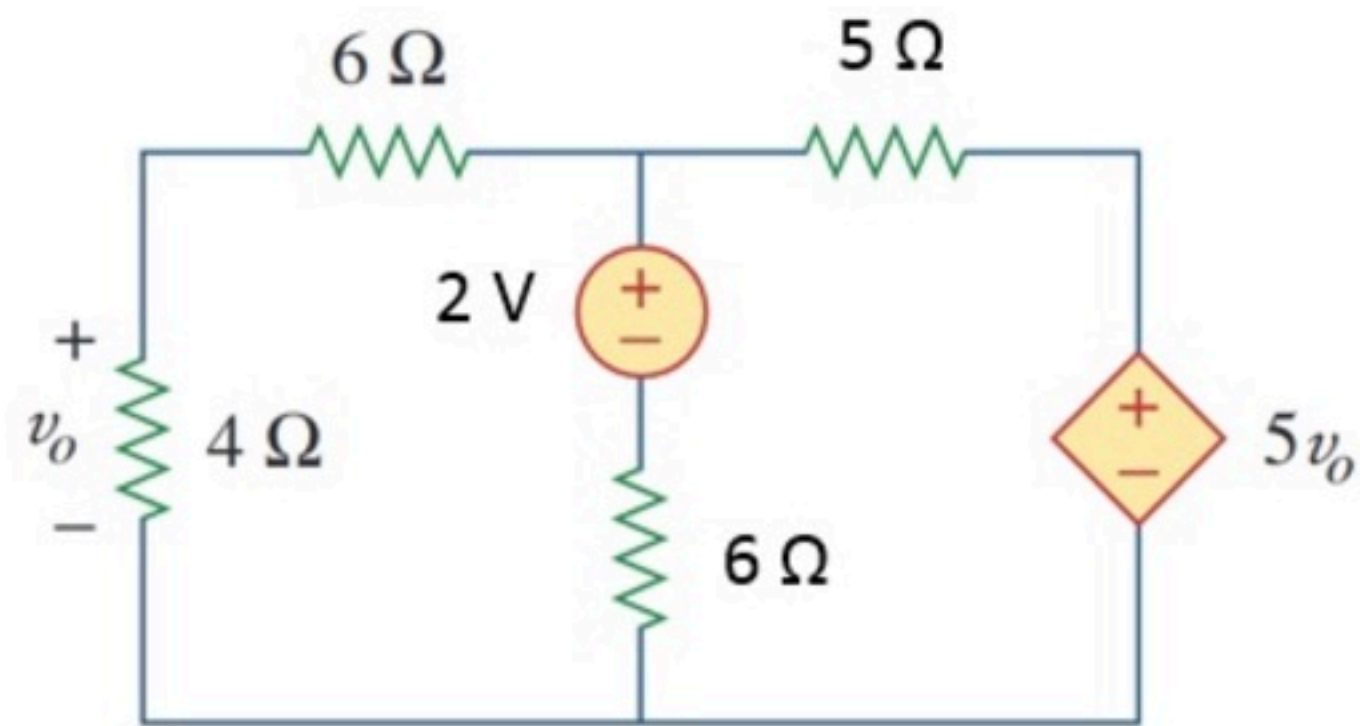


# PP Nodal Mesh 012

Unlimited Attempts.

Find the value of  $v_o$ . Solve using mesh analysis.

For extra practice: Afterwards solve again using nodal analysis.



Given Variables:

...

Calculate the following:

$v_o$  (V) :

2



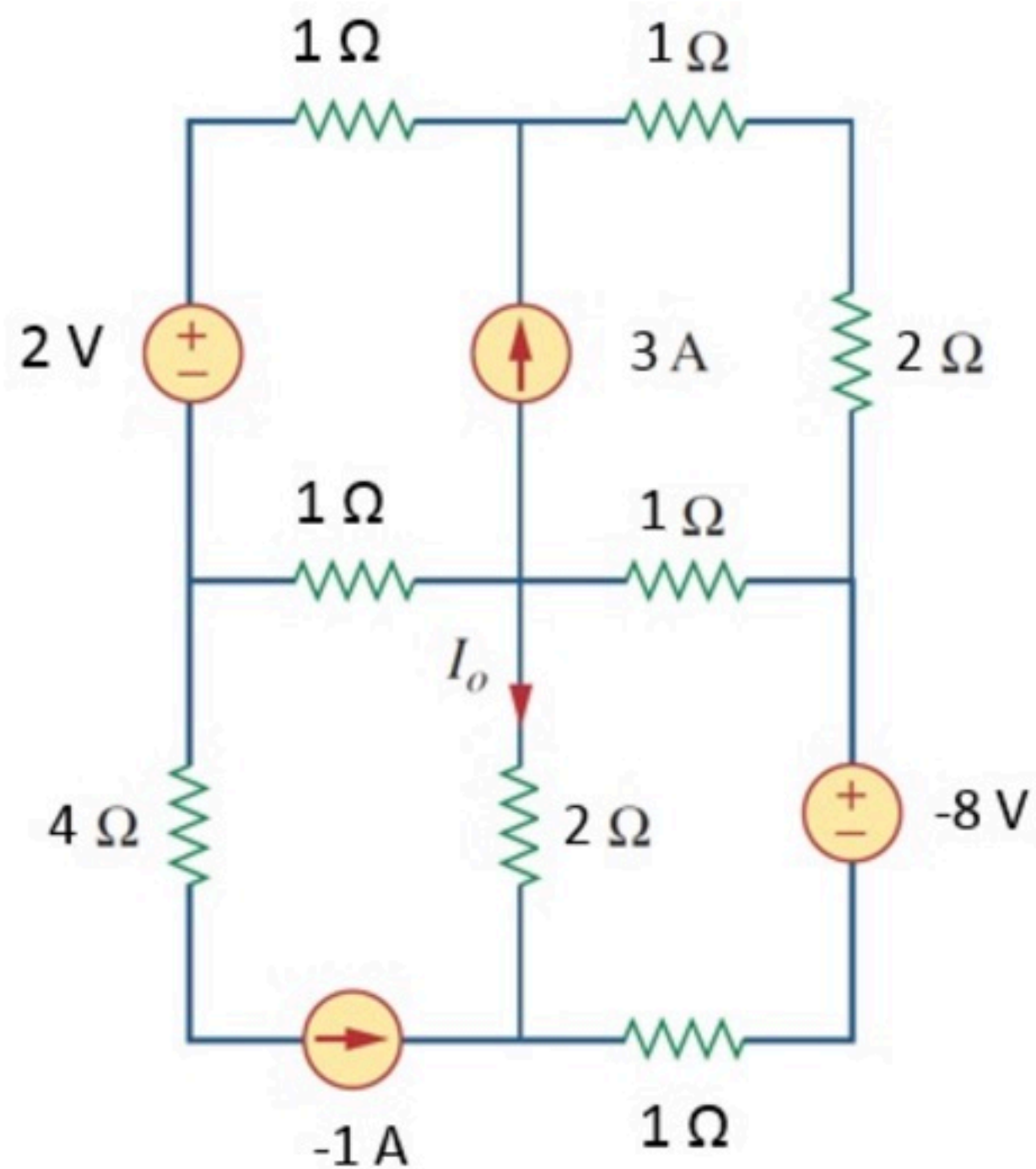
Hint: Ignore  $v_o$  at the start. Just find the two mesh currents.

# PP Nodal Mesh 013

Unlimited Attempts.

Find the current  $I_o$ . Solve using mesh analysis.

For extra practice: Afterwards solve again using nodal analysis.



Given Variables:

...

Calculate the following:

$I_o$  (A) :

-2

Hint: Use a supermesh

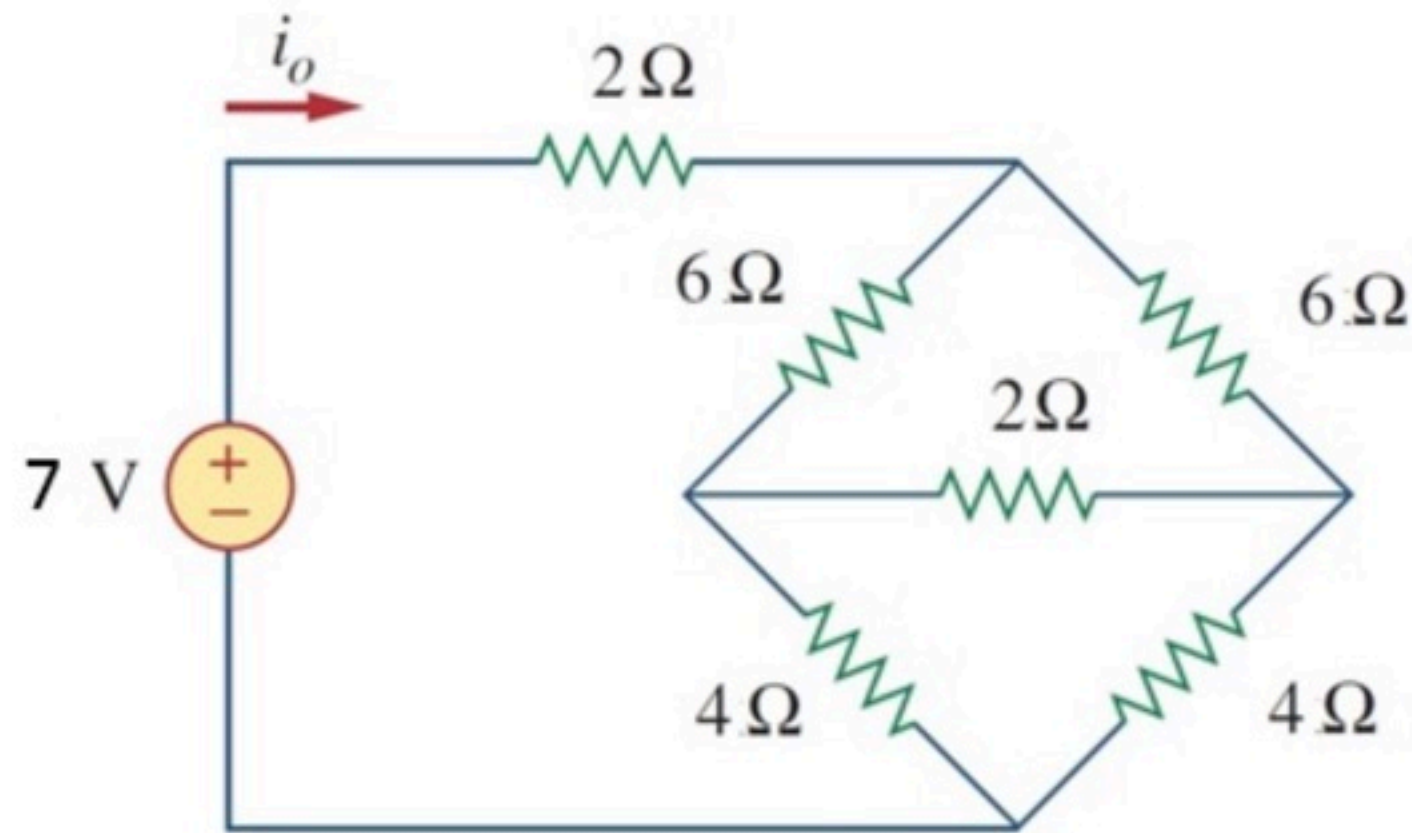


# PP Nodal Mesh 014

Unlimited Attempts.

Find the current  $i_o$ . Solve using mesh analysis.

For extra practice: Afterwards solve again using nodal analysis.



Given Variables:

...

Calculate the following:

$i_o$  (A) :

1



Hint: Symmetry will result in easier equations

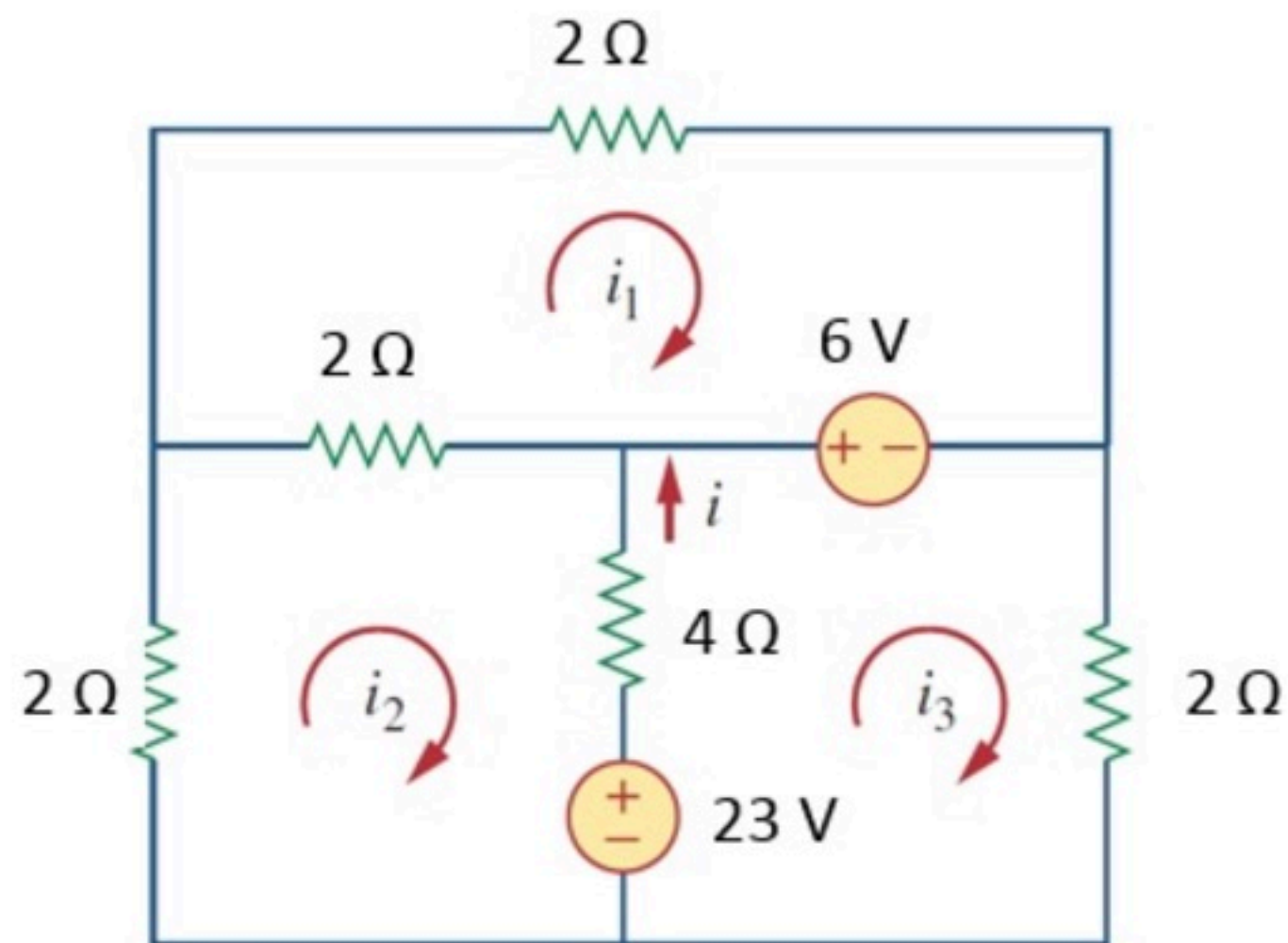


# PP Nodal Mesh 015

Unlimited Attempts.

Find the current  $i$ . Solve using mesh analysis.

For extra practice: Afterwards solve again using nodal analysis.



Given Variables:

...

Calculate the following:

$i$  (A) :

3.5



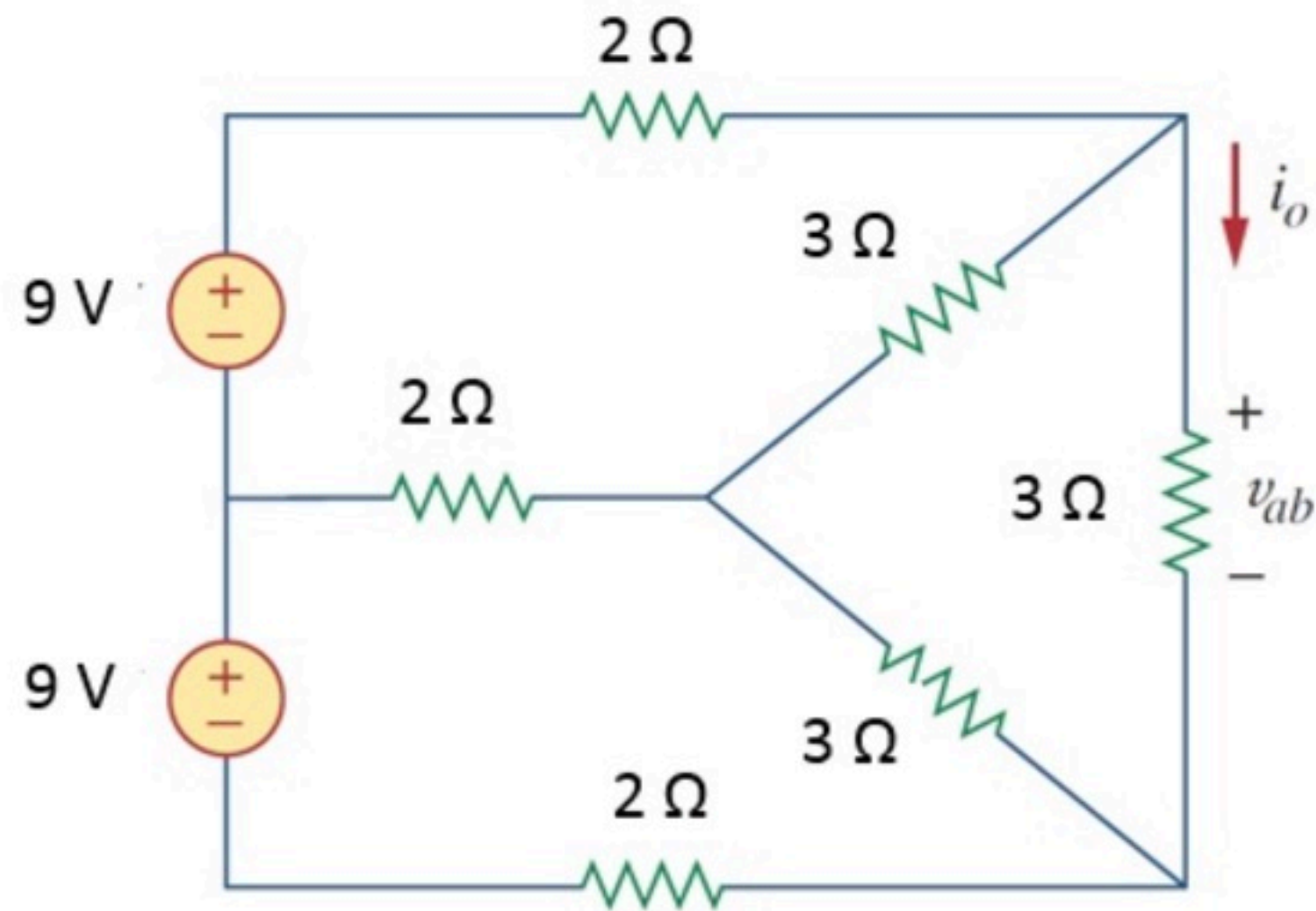
Hint: Mind the direction of the sources

# PP Nodal Mesh 016

Unlimited Attempts.

Find the current  $i_o$  and the voltage  $v_{ab}$ . Solve using mesh analysis.

For extra practice: Afterwards solve again using nodal analysis.



Given Variables:

. . .

Calculate the following:

$i_o$  (A) :

2



$v_{ab}$  (V) :

6



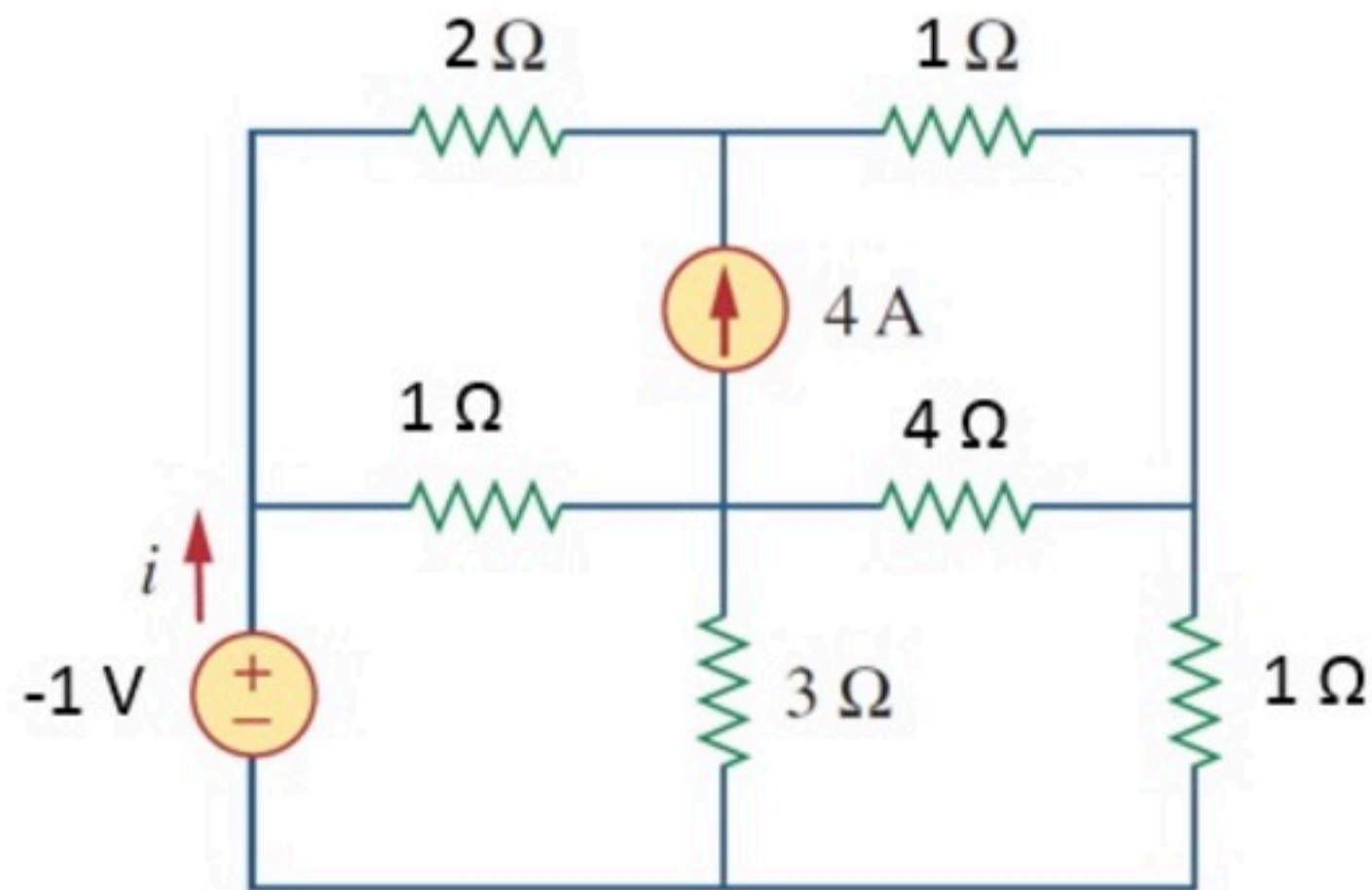
Hint: Afterward, check the symmetry

# PP Nodal Mesh 017

Unlimited Attempts.

Find the current  $i$ . Solve using mesh analysis.

For extra practice: Afterwards solve again using nodal analysis.



Given Variables:

...

Calculate the following:

$i$  (A) :

0



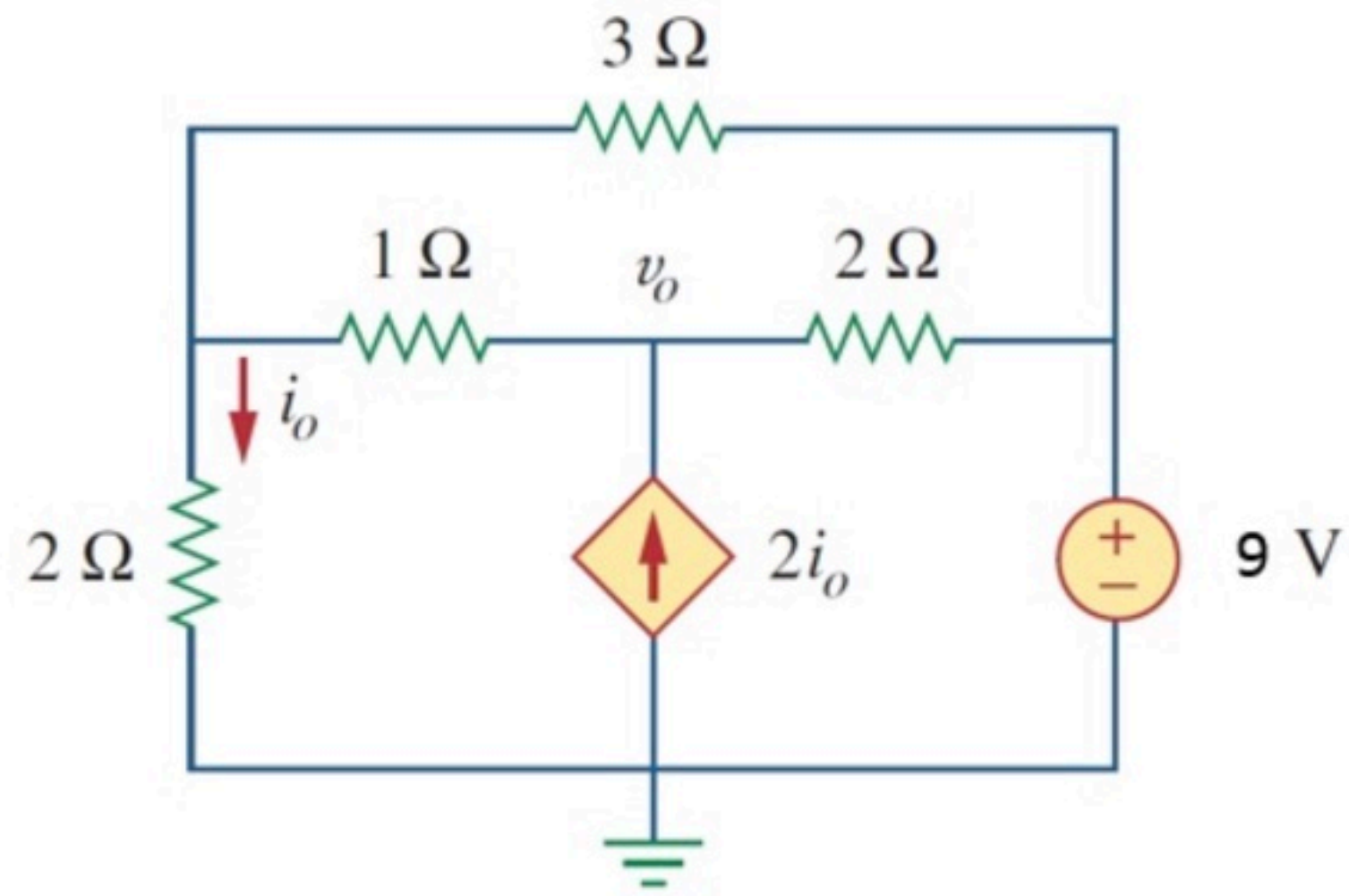
Hint: Use a supermesh

# PP Nodal Mesh 018

Unlimited Attempts.

Find the current  $i_o$  and the voltage  $v_o$ . Solve using mesh analysis.

For extra practice: Afterwards solve again using nodal analysis.



Given Variables:

...

Calculate the following:

$i_o$  (A) :

6



$v_o$  (V) :

19



Hint: Use a supermesh

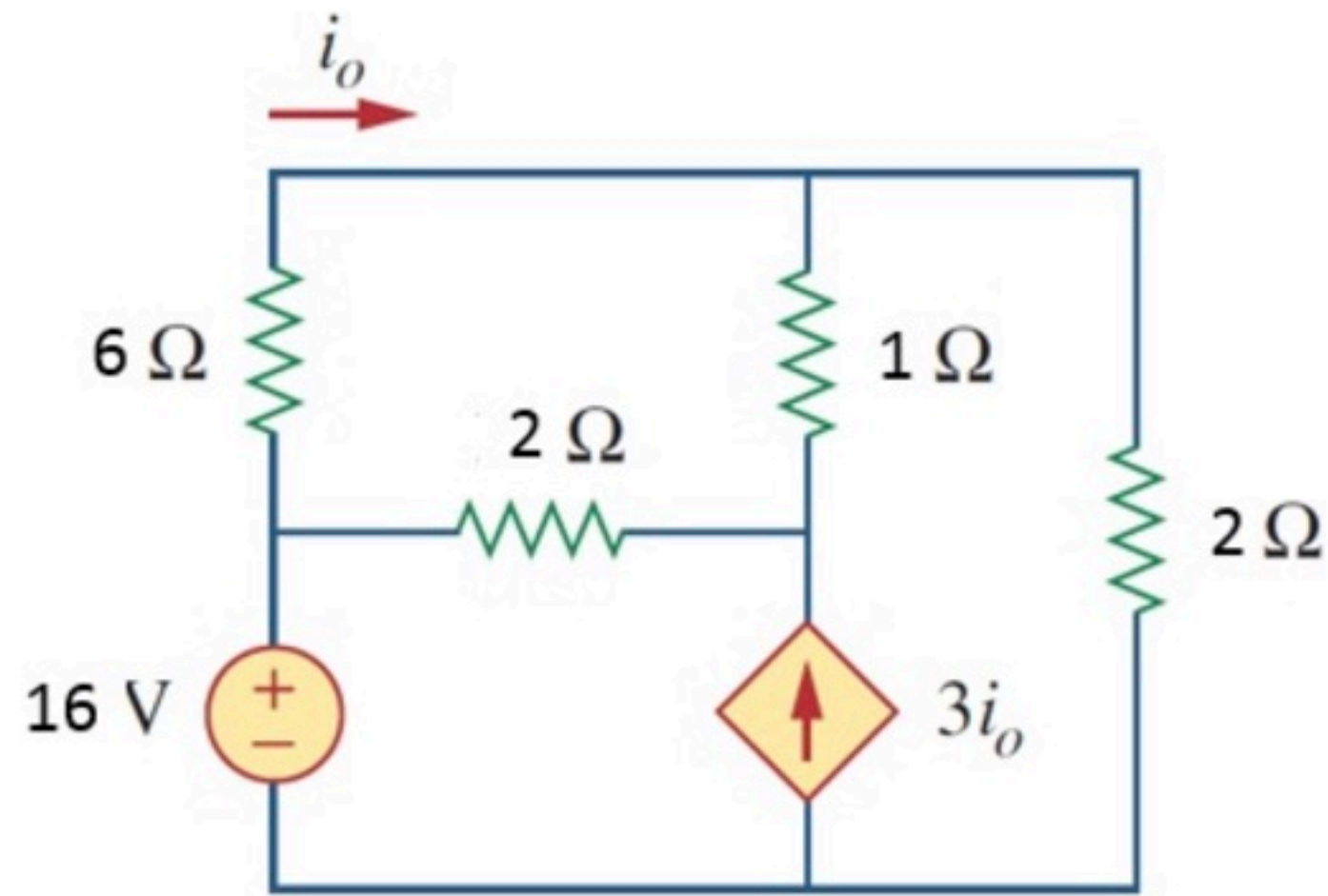


# PP Nodal Mesh 019

Unlimited Attempts.

Find the current  $i_o$ . Solve using mesh analysis.

For extra practice: Afterwards solve again using nodal analysis.



Given Variables:

...

Calculate the following:

$i_o$  (A) :

1



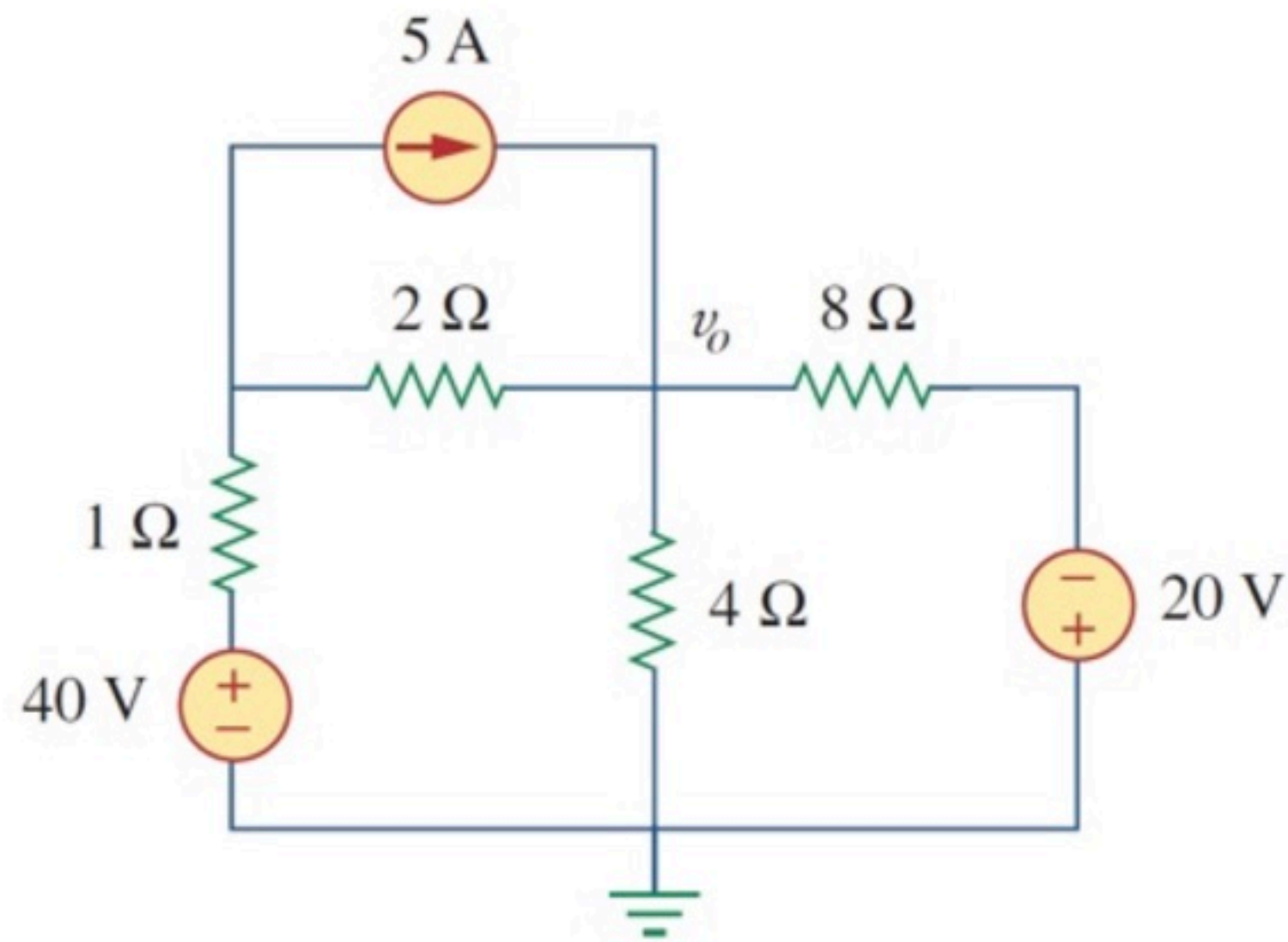
Hint: Use a supermesh

# PP Nodal Mesh 020

Unlimited Attempts.

Find the voltage  $v_o$ . Solve using mesh analysis.

For extra practice: Afterwards solve again using nodal analysis.



Given Variables:

...

Calculate the following:

$v_o$  (V) :

20



Hint: Can we find a mesh current directly?