باسمه تعالی

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1- Obtain the node voltages in the circuit in Fig. 3.4.

Answer: $v_1 = -2$ V, $v_2 = -14$ V.

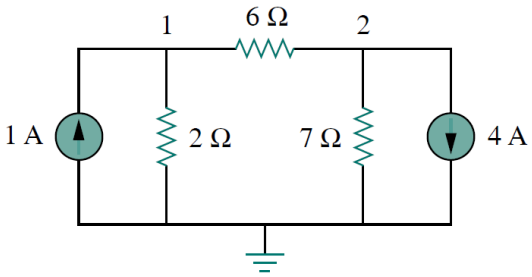


Figure 3.4 For Practice Prob. 3.1.

2- Find v and i in the circuit in Fig. 3.11.

Answer: −0.2 V, 1.4 A.

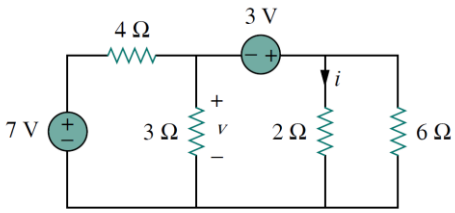
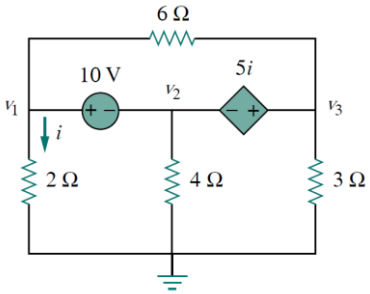


Figure 3.11 For Practice Prob. 3.3.



3- Find v_1, v_2, and v_3 in the circuit in Fig. 3.14 using nodal analysis.

Answer: $v_1 = 3.043$ V, $v_2 = -6.956$ V, $v_3 = 0.6522$ V.

Figure 3.14 For Practice Prob. 3.4.

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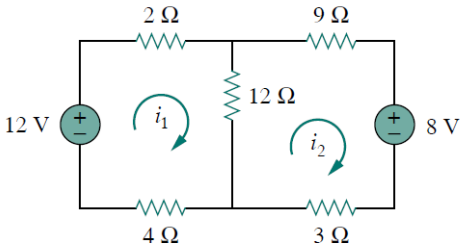

Figure 3.19 For Practice Prob. 3.5.

Calculate the mesh currents i_1 and i_2 in the circuit of Fig. 3.19.

Answer: $i_1 = \frac{2}{3}$ A, $i_2 = 0$ A.

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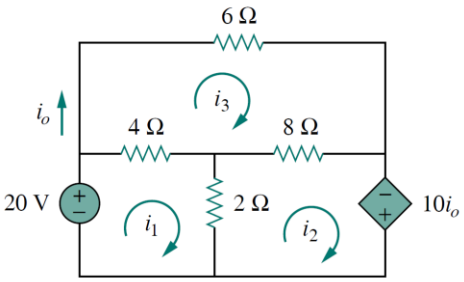
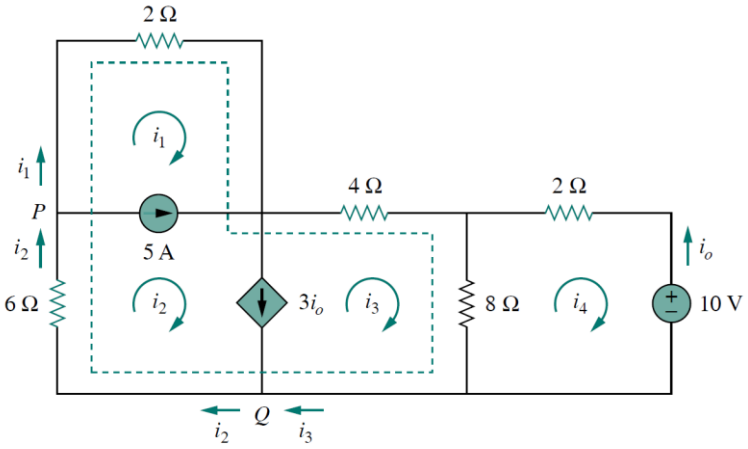


Figure 3.21 For Practice Prob. 3.6.

Using mesh analysis, find i_o in the circuit in Fig. 3.21.

Answer: −5 A.

6- For the circuit shown below a) Which analysis is preferable? b) Calculate the mesh currents by employing mesh analysis.



7- Find v_x and i_x in the circuit shown in Fig. 3.91.

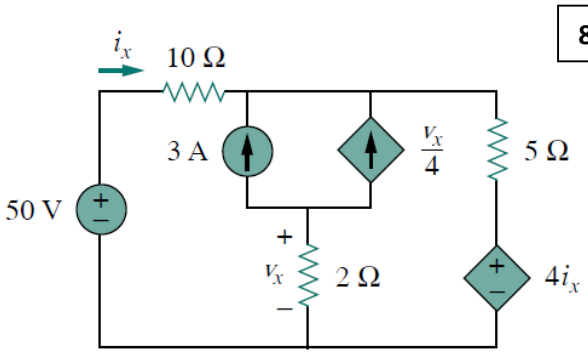


Figure 3.91 For Prob. 3.49.

8- Calculate the current gain i_o/i_s in the circuit of Fig. 3.89.

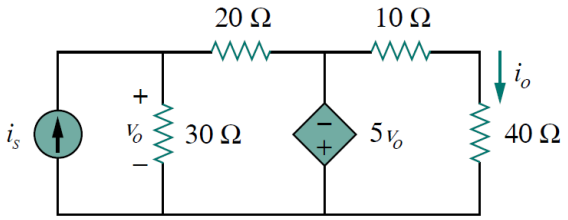


Figure 3.89 For Prob. 3.47.

9- Find i_1, i_2, and i_3 in the circuit in Fig. 3.87.

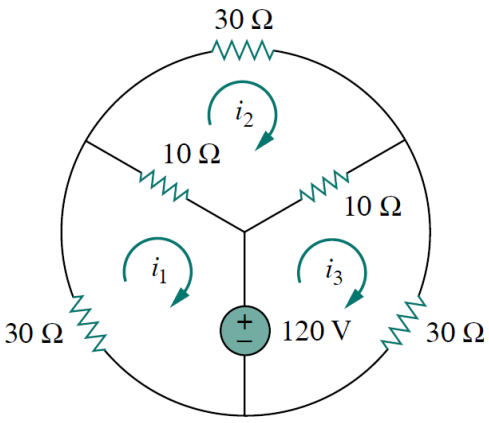


Figure 3.87 For Prob. 3.44.

10- Find v_o and i_o in the circuit of Fig. 3.92.

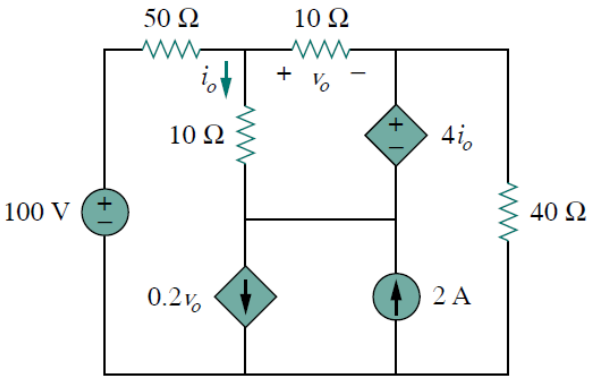


Figure 3.92 For Prob. 3.50.