

1.6 The charge entering a certain element is shown in Fig. 1.23. Find the current at:

- (a) $t = 1$ ms (b) $t = 6$ ms (c) $t = 10$ ms

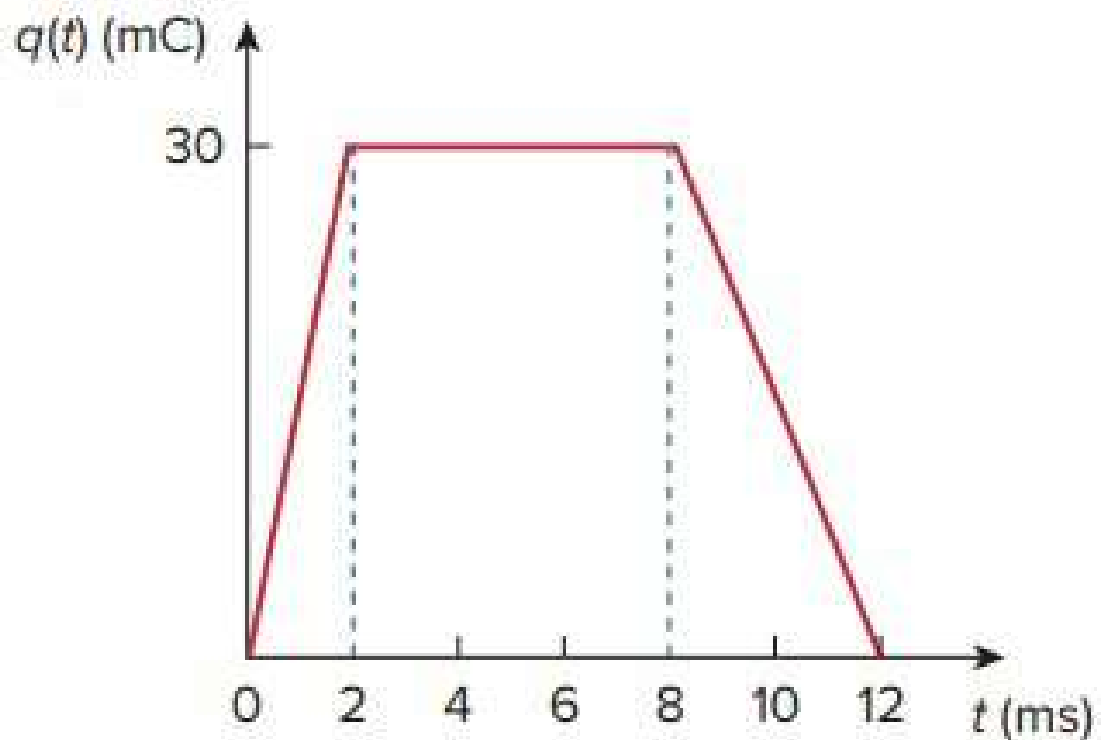


Figure 1.23

For Prob. 1.6.

- 1.8** The current flowing past a point in a device is shown in Fig. 1.25. Calculate the total charge through the point.

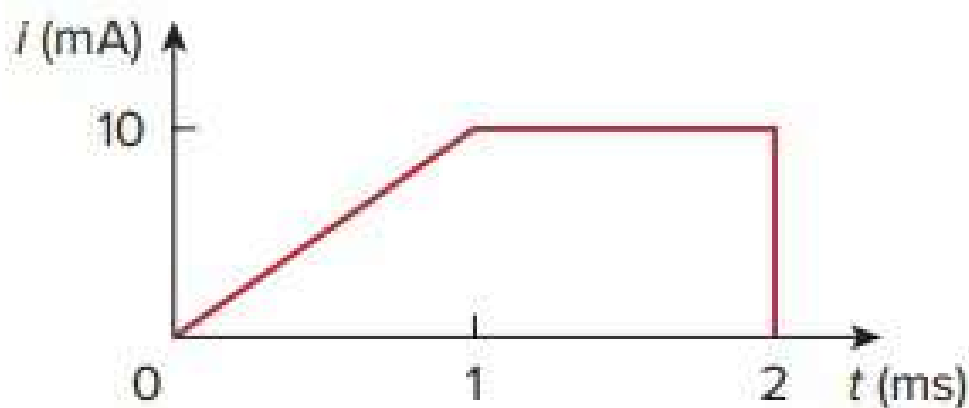


Figure 1.25

For Prob. 1.8.

1.20 Find V_o and the power absorbed by each element in the circuit of Fig. 1.31.

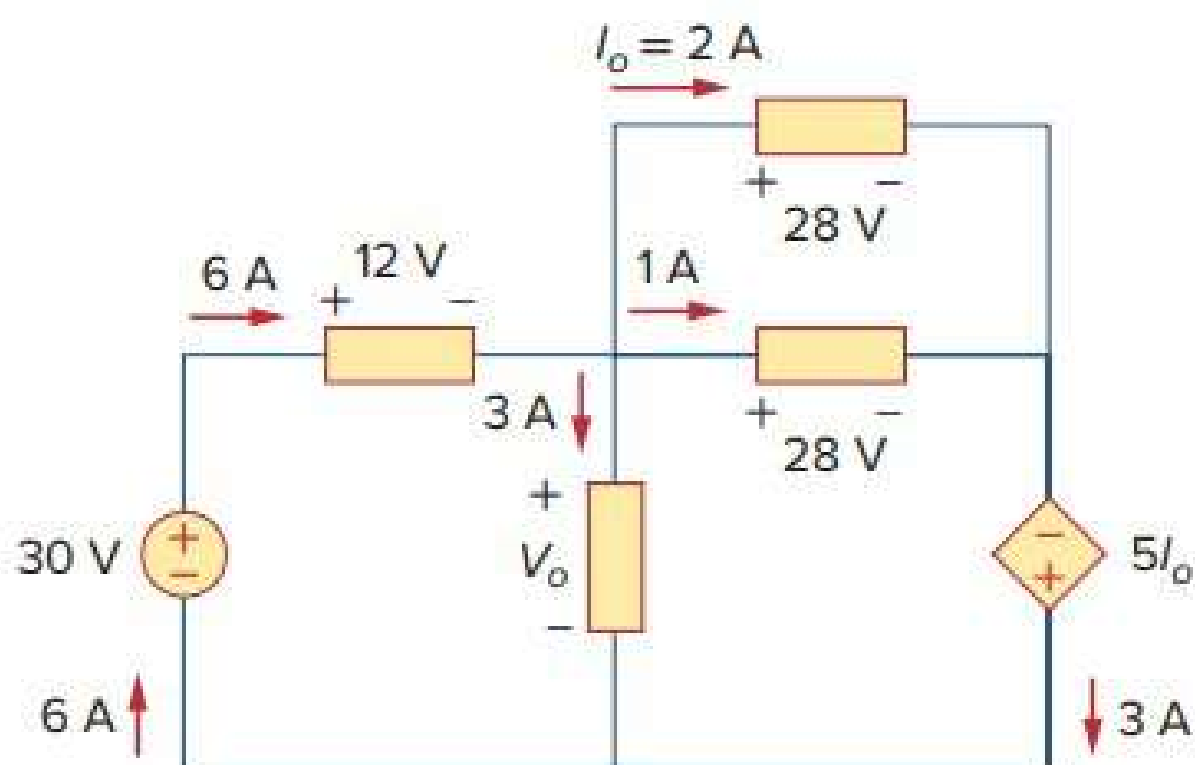


Figure 1.31
For Prob. 1.20.

- 2.7 Determine the number of branches and nodes in the circuit of Fig. 2.71.

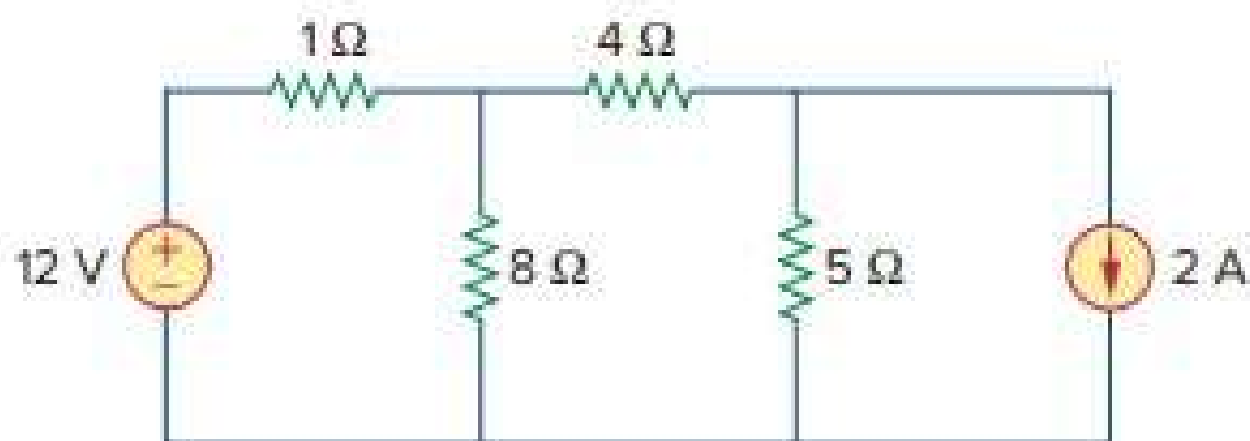


Figure 2.71

For Prob. 2.7.

2.10 Determine i_1 and i_2 in the circuit of Fig. 2.74.

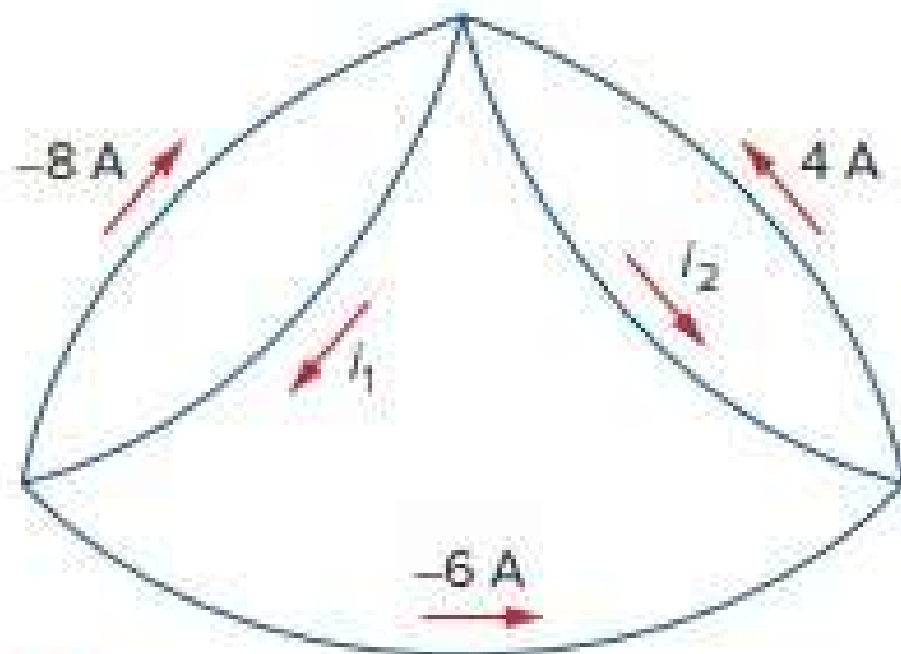


Figure 2.74

For Prob. 2.10.

- 2.19** From the circuit in Fig. 2.83, find I , the power dissipated by the resistor, and the power supplied by each source.

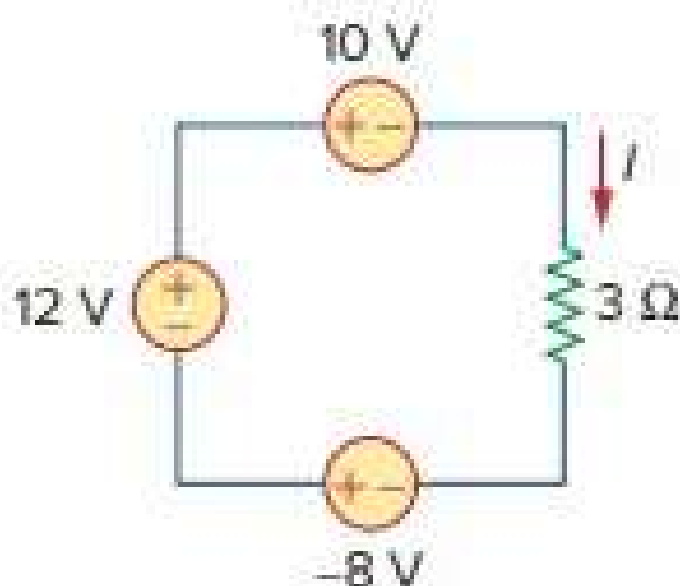


Figure 2.83

For Prob. 2.19.

2.42 Reduce each of the circuits in Fig. 2.106 to a single resistor at terminals a - b .

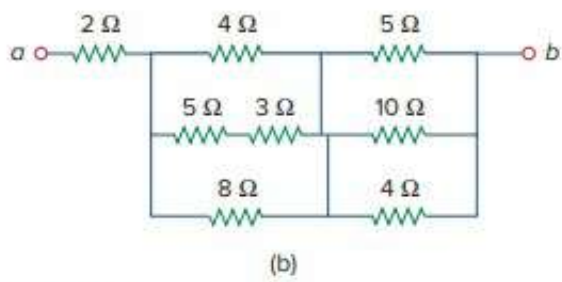
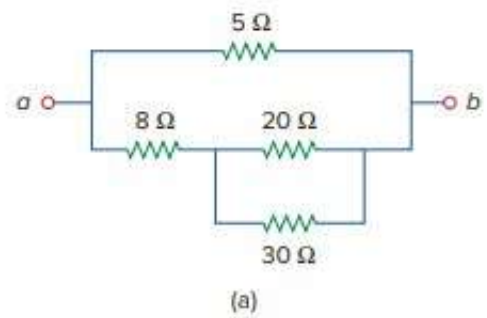


Figure 2.106
For Prob. 2.42.

2.45 Find the equivalent resistance at terminals a - b of each circuit in Fig. 2.109.

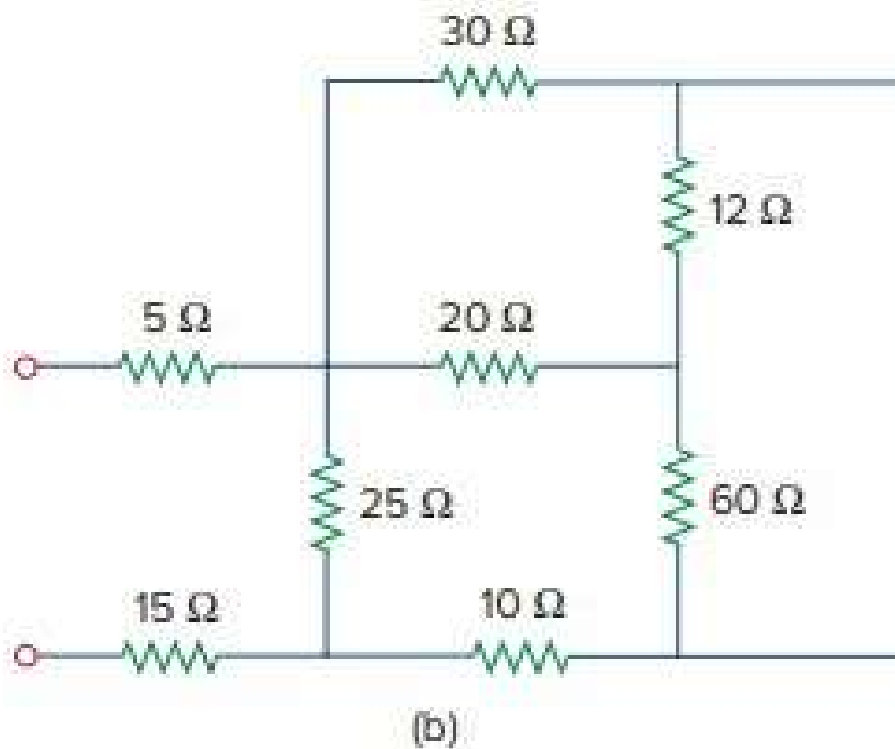
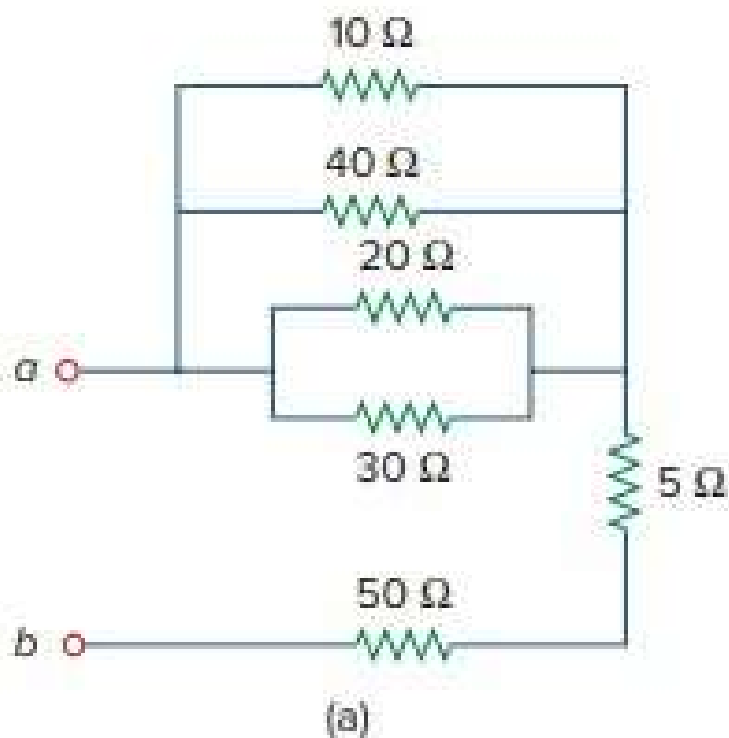
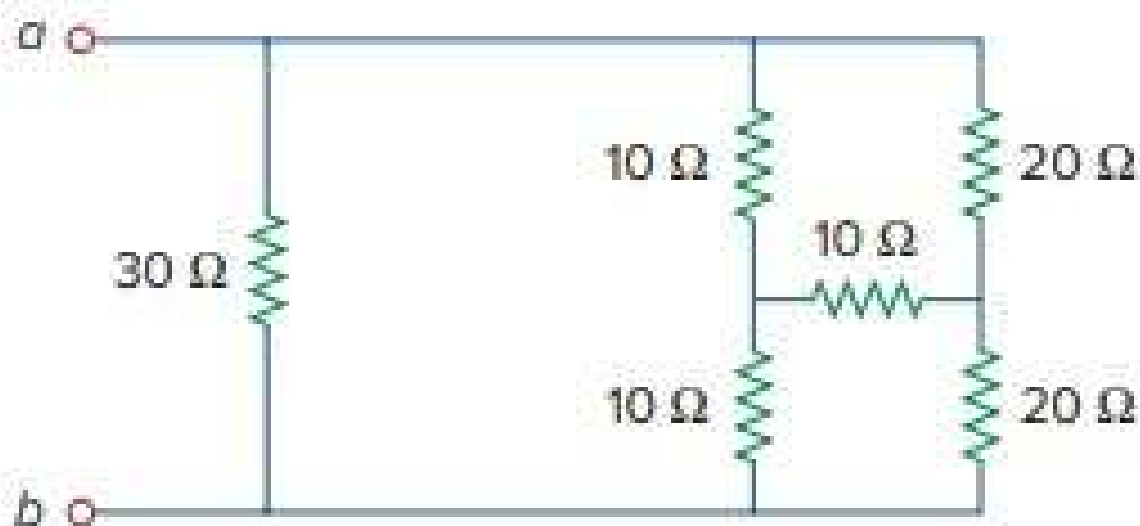
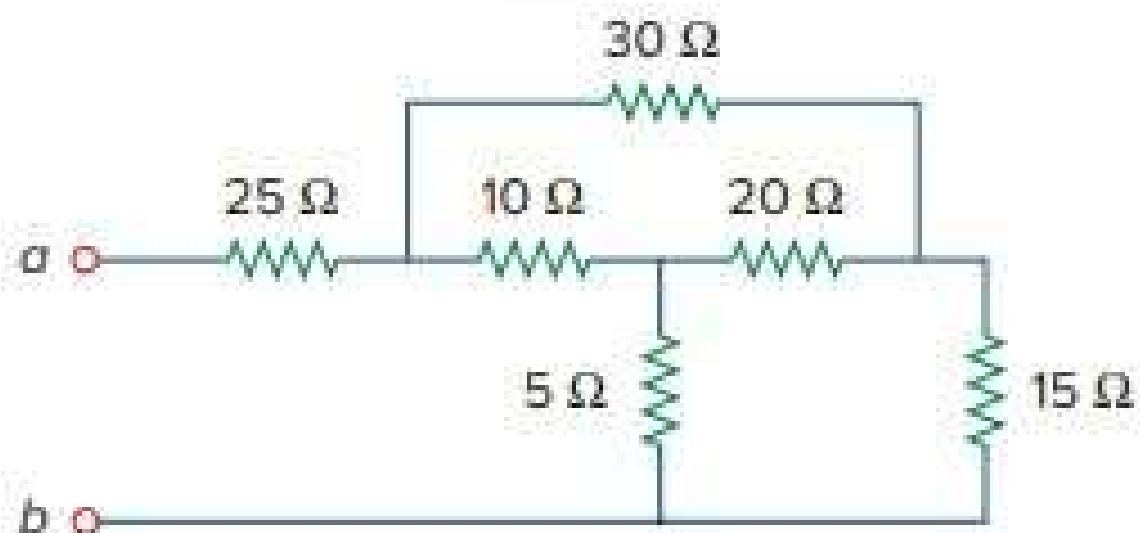


Figure 2.109
For Prob. 2.45.

2.51 Obtain the equivalent resistance at the terminals a - b for each of the circuits in Fig. 2.115.



(a)



(b)

Figure 2.115

For Prob. 2.51.

***2.52** For the circuit shown in Fig. 2.116, find the equivalent resistance. All resistors are 3Ω .

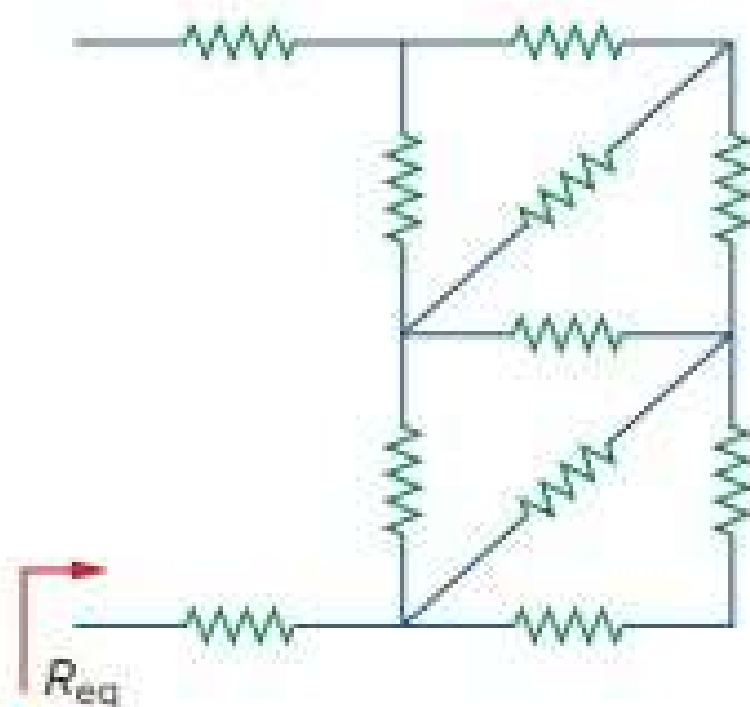


Figure 2.116

For Prob. 2.52.

Section 2.8 Applications

- 2.58** The 150 W light bulb in Fig. 2.122 is rated at 110 volts. Calculate the value of V_s to make the light bulb operate at its rated conditions.

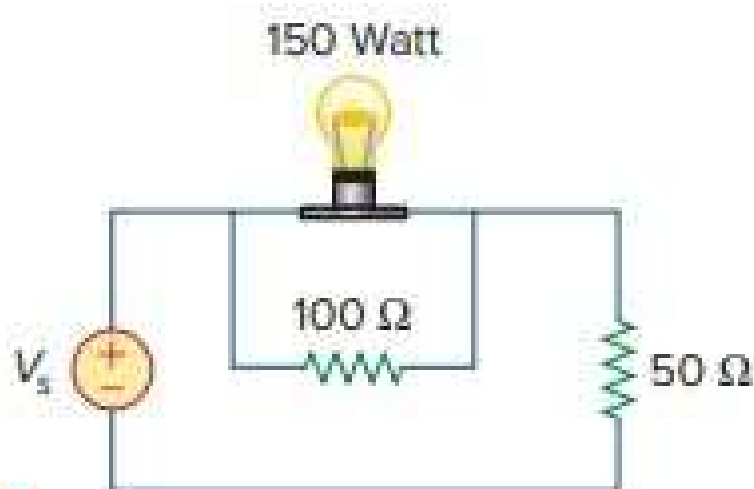


Figure 2.122

For Prob. 2.58.