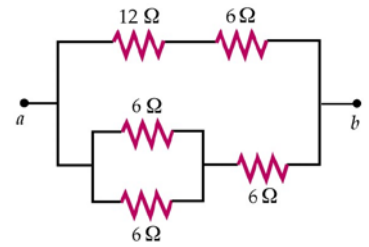


Quiz #6: Circuits

Problem 1 (2 points)

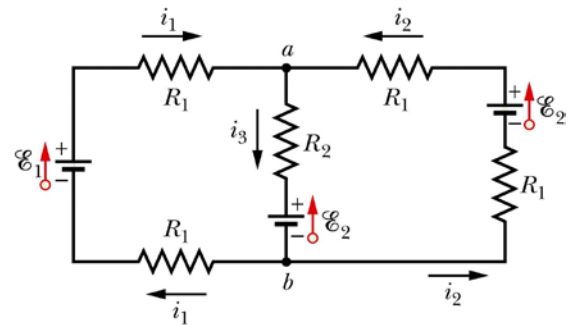
The equivalent resistance between points a and b in the circuit shown to the right is:

- a) 6.0Ω
- b) 7.2Ω
- c) 8.0Ω
- d) 9.0Ω
- e) none of the above



Problem 2 (3 points)

Use Kirchoff's rules to write three independent equations for the circuit shown to the right.



Problem 3 (2 points)

You have two identical 100Ω resistors and two identical ideal 5.0 V batteries. Draw a circuit diagram of how you would arrange the resistors and batteries in order to get the maximum possible total power out of the resistors.

Problem 4 (3 points)

In the circuit to the right, $R = 750 \Omega$ and the capacitor is initially uncharged. The switch is then closed, and after 0.015 s , the charge on the capacitor has increased to half of its final value. What is the capacitance of the capacitor?

