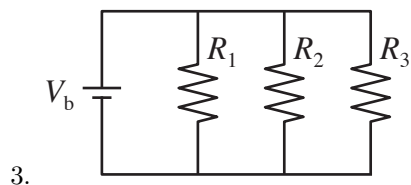
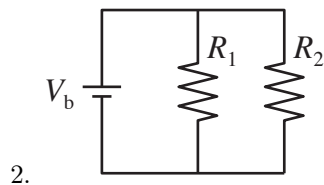
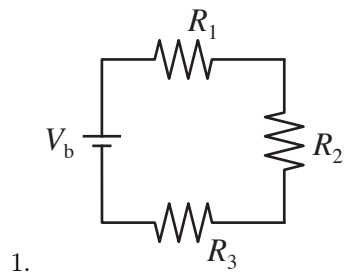


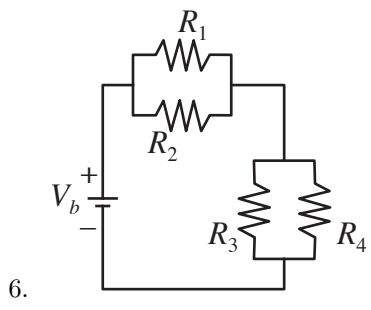
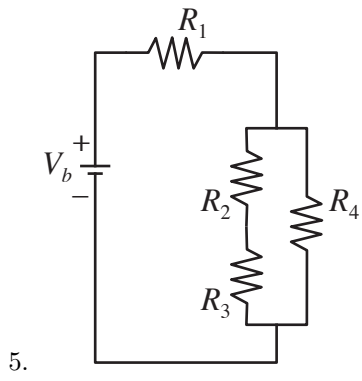
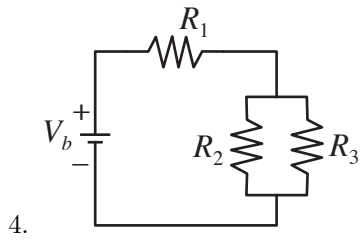
Simplifying Circuits with Multiple Resistors

The example problems provided here do not have numerical values specified for the battery voltage (V_b) or the resistors (R_1, R_2, \dots). The goal of these exercises is to focus on a procedure for simplifying arrangements of resistors, without being limited by any one set of numerical values. Therefore, the goal of the exercises is to obtain an algebraic expression that answers each of the questions.

For the circuits in Exercises 1 through 6,

1. What is the equivalent resistance of all resistors connected to the battery?
 2. How much current is supplied by the battery?
 3. How much power is dissipated by the circuit?
 4. How much power is dissipated by R_1 ?
-

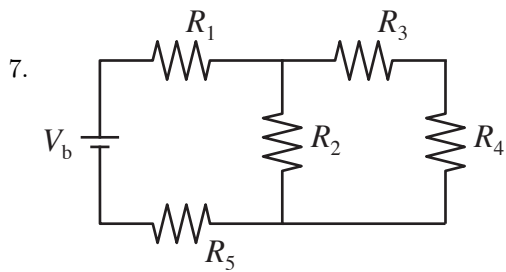




Simplifying Layouts of Resistor Networks

For each of the following circuits

- Transform the layout of the resistor network to an equivalent circuit where the resistors are at right angles, *and* where the network clearly shows which resistors are in series
- Develop a formula for the equivalent resistance of the network



8.

