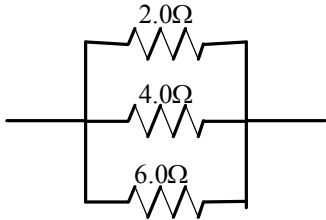# Circuits Worksheet

1. Calculate the equivalent resistance of the following combination: $R_{eq} =$ _____
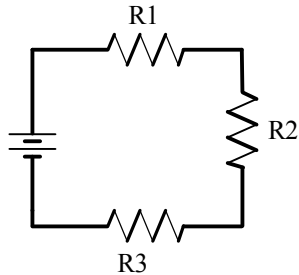
    2.0Ω       8.0Ω       6.0Ω



2. Calculate the equivalent resistance of the following combination: $R_{eq} =$ _____

          2.0Ω

          4.0Ω

          6.0Ω



3. Complete the table by calculating the total resistance of the following series circuit. Then calculate total circuit current and the voltage drops and currents for each of the resistors.



|  | V | I | R |
|---|---|---|---|
| Source | 12V |  |  |
| $R_1$ |  |  | 2.0Ω |
| $R_2$ |  |  | 4.0Ω |
| $R_3$ |  |  | 6.0Ω |

4. Complete the table by calculating the total resistance of the following parallel circuit. Then calculate total circuit current and the voltage drops and currents for each of the resistors.
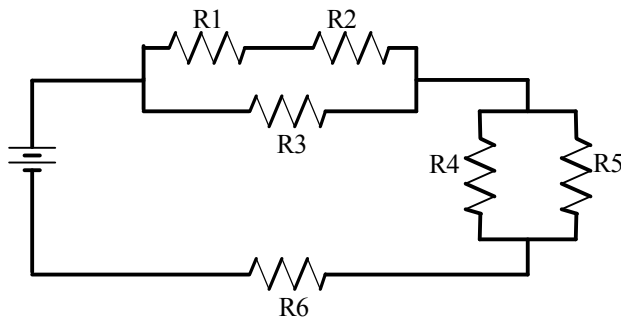


|  | V | I | R |
|---|---|---|---|
| Source | 12V |  |  |
| $R_1$ |  |  | 2.0Ω |
| $R_2$ |  |  | 3.0Ω |
| $R_3$ |  |  | 6.0Ω |
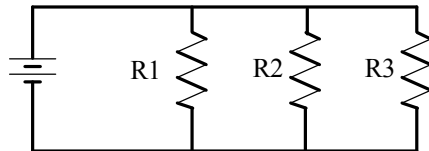
5. Calculate the missing information in the table for the following series-parallel network.



|  | V | I | R |
|---|---|---|---|
| Source |  | 2.0A |  |
| $R_1$ |  |  | 5.0Ω |
| $R_2$ | 3.5V |  |  |
| $R_3$ |  | 1.5A |  |
| $R_4$ | 4.0V |  |  |
| $R_5$ |  | 1.0A |  |
| $R_6$ |  |  | 2.0Ω |