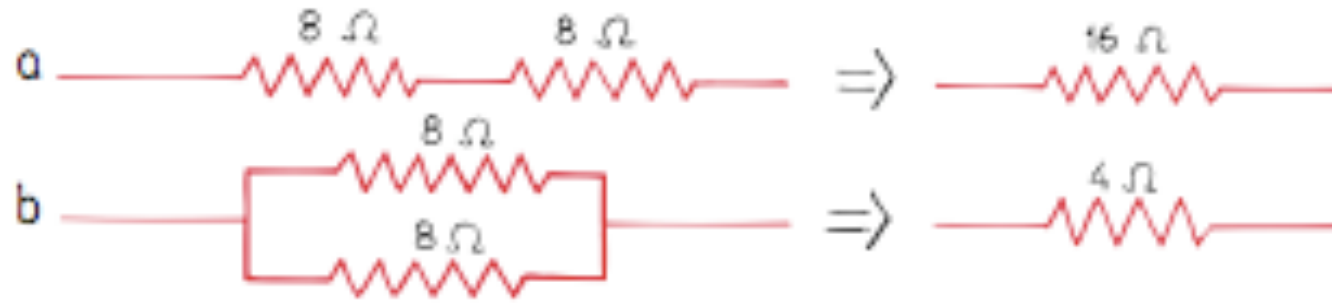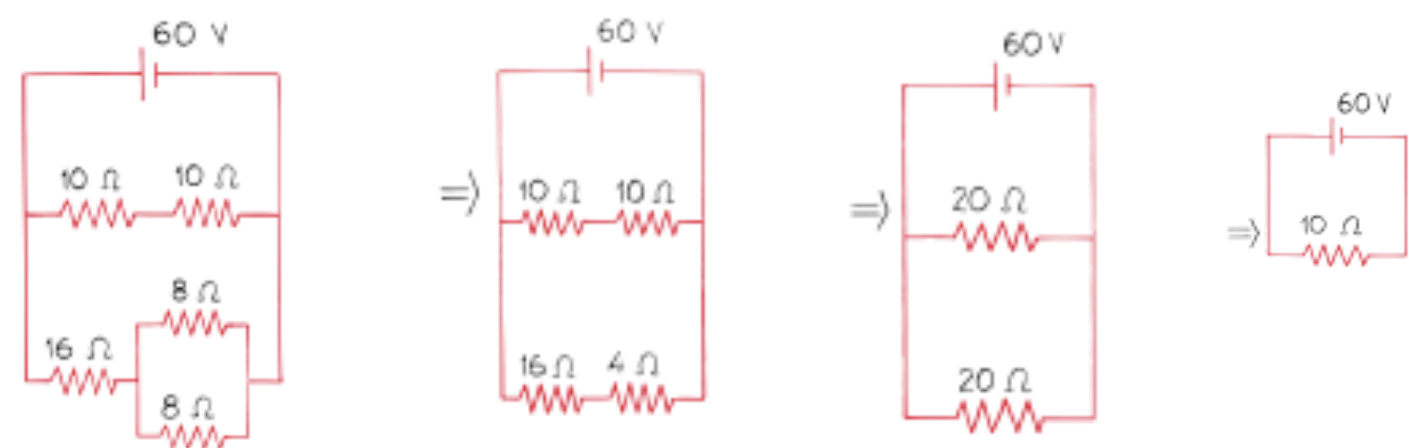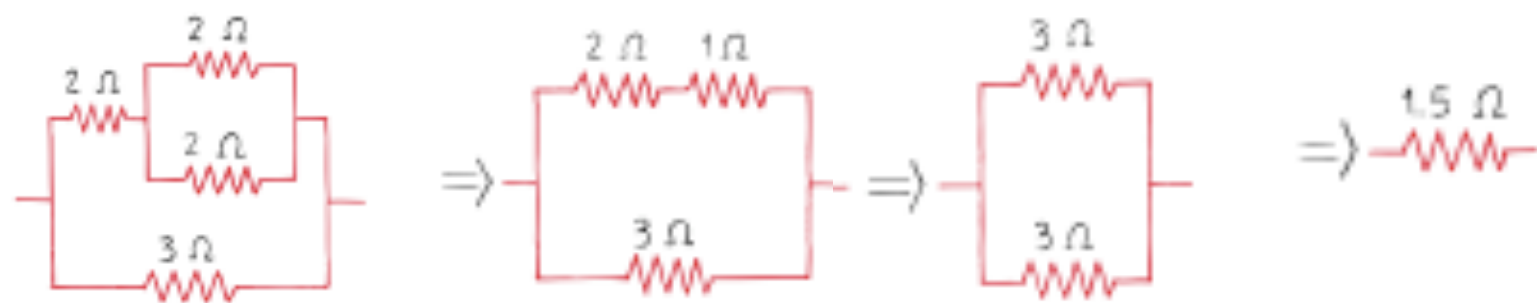# Combination Circuits

Combining Resistors
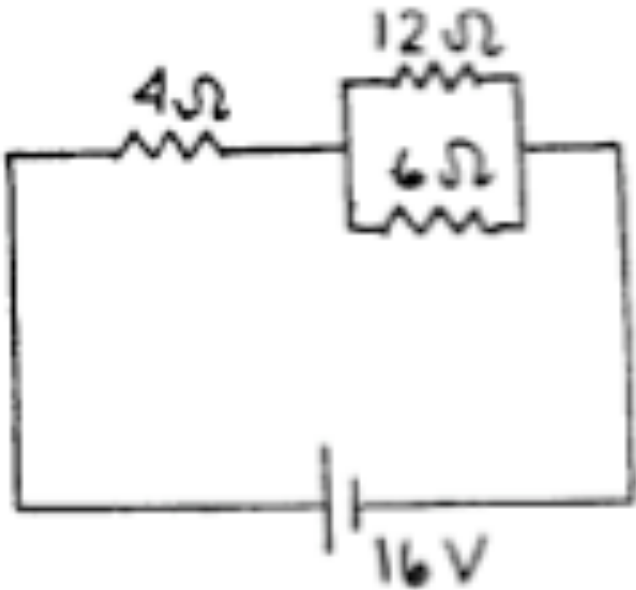

- Series $$R_{eq} = R_1 + R_2 + R_3 + \cdots$$

- Parallel $$\frac{1}{R_{eq}} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} + \cdots$$

Top circuit series:

2 Ω 2 Ω 2 Ω 3 Ω ⇒ 2 Ω 1 Ω 3 Ω ⇒ 3 Ω 3 Ω ⇒ 1.5 Ω

Bottom circuit series:

60 V 10 Ω 10 Ω 8 Ω 16 Ω 8 Ω ⇒ 60 V 10 Ω 10 Ω 16 Ω 4 Ω ⇒ 60 V 20 Ω 20 Ω ⇒ 60 V 10 Ω
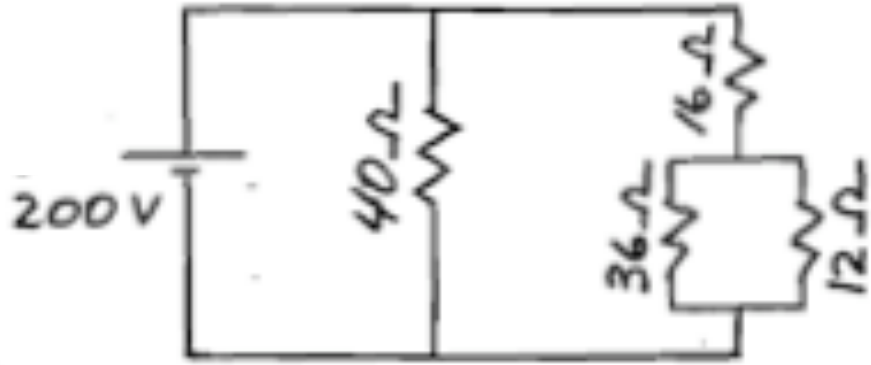
Example 1: Combination Circuits

- Find the total current passing through the circuit.

Example 2: Circuits

Find the voltage drop across each resistor, the current through each resistor, the total current supplied by the battery, and the total power delivered by the battery.