- 1. You are given three resistors of resistances 30 Ω each. Draw four different circuits with these resistors and determine the effective resistance for each of the four circuits.
- 2. Three resistors of resistances 10 $\Omega,$ 20 Ω and 30 Ω are connected in series across a 25 V battery.
 - (a) Draw the circuit neatly.
 - (b) Determine the effective resistance for the circuit.
 - (c) Determine the current through the 20 Ω resistor.
 - (d) Determine the voltage across the 30 Ω resistor.
 - (e) Determine the power delivered to the 10 Ω resistor.
- 3. Three resistors of resistances 10 $\Omega,$ 20 Ω and 30 Ω are connected in parallel across a 25 V battery.
 - (a) Draw the circuit neatly.
 - (b) Determine the effective resistance for the circuit.
 - (c) Determine the current through the 20 Ω resistor.
 - (d) Determine the voltage across the 30 Ω resistor.
 - (e) Determine the power delivered to the 10 Ω resistor.
- 4. A 60 W, 120 V bulb is connected in series with a 75 W, 120 V bulb.
 - (a) Determine the resistance for each of the bulbs.
 - (b) Determine the effective resistance for the circuit.
 - (c) Determine the current through each resistor.
 - (d) Determine the voltage across each resistor.
 - (e) Determine the power delivered to each resistor.
- 5. A 100 W, 120 V bulb is connected in parallel with a 150 W, 120 V bulb.
 - (a) Determine the resistance for each of the bulbs.
 - (b) Determine the effective resistance for the circuit.
 - (c) Determine the current through each resistor.
 - (d) Determine the voltage across each resistor.
 - (e) Determine the power delivered to each resistor.

6. Five resistors are connected according to the following circuit. Determine the effective resistance, the current through each resistor and the voltage across each resistor.



7. For the following circuit determine the equivalent resistance.

