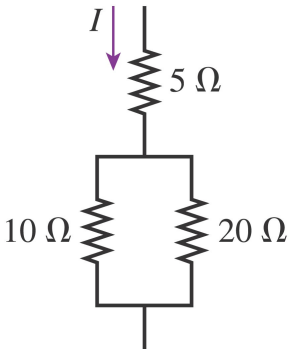
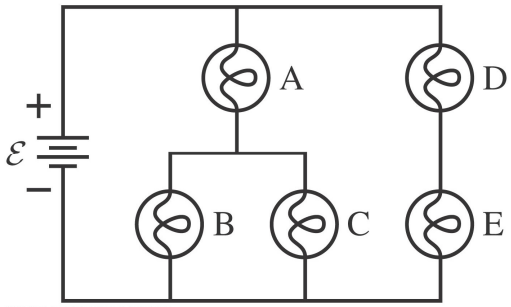
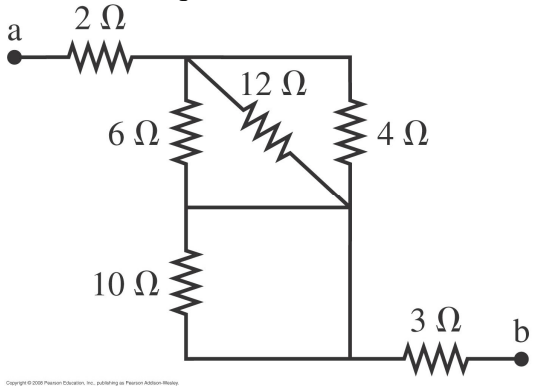
Problem 1
The 10 Ω resistor is dissipating 40 W of power. How much power are the other resistors dissipating?



Problem 2
The Figure below shows five identical light bulbs connected to an ideal battery. All the bulbs are glowing. Rank in order, from brightest to dimmest, the brightness of bulbs A to E.

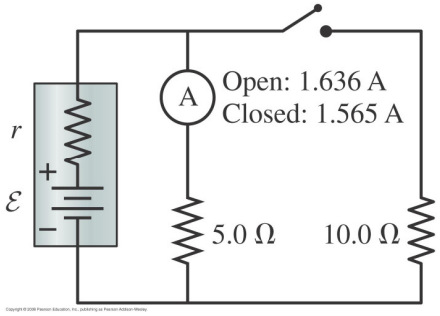


Problem 3
What is the equivalent resistance between points a and b in the following Figure?



Problem 4

What are the emf and internal resistance of the battery in the Figure below?



Problem 5

For an ideal battery (r = 0 Ω), closing the switch does dot affect the brightness of the bulb A. In practice, bulb A dims just a little when the switch closes. To see why, assume that the 1.5 V battery has an internal resistance $r = 0.50\ \Omega$ and that the resistance of a glowing bulb is $R = 6.00\ \Omega$.

a. What is the current through bulb A when the switch is open?
b. What is the current through bulb A after the switch has closed?
c. By what percentage does the current through A change when the switch is closed?
d. Would closing the switch change the current through bulb A if r = 0 Ω?