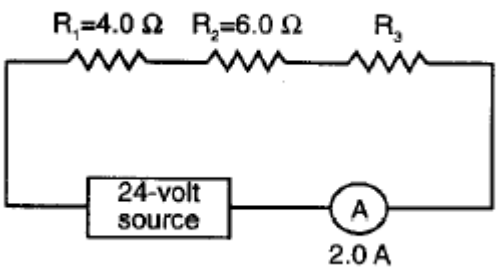
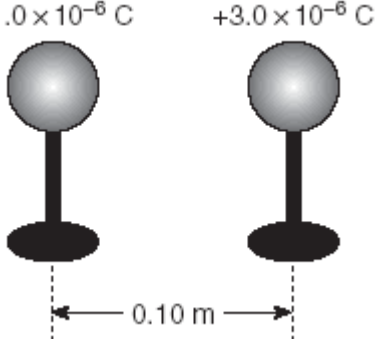
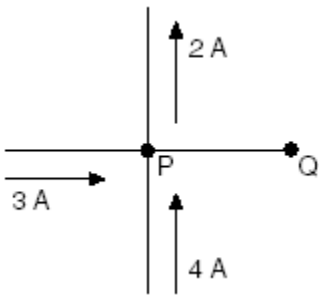
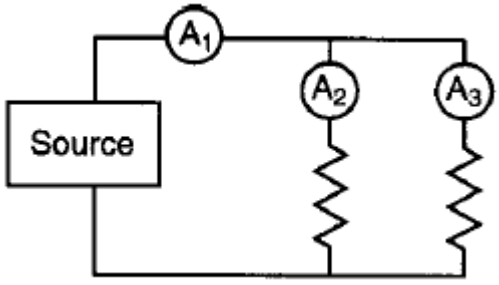


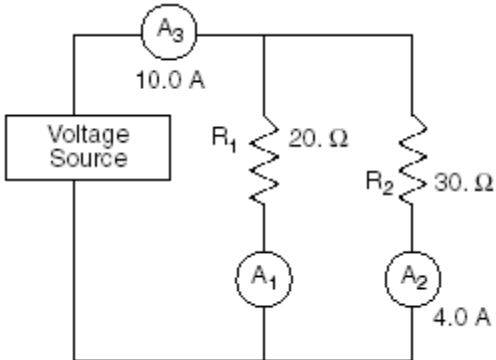
VIII. Electricity Flash Cards

 <p>1a) Find the total resistance</p> <p>1b) Find R_3</p>	<p>a) <input type="text"/></p> <p>b) <input type="text"/></p>
 <p>2. The spheres are touched together and then returned to their original positions. As a result, the magnitude of the charge on each sphere is _____</p>	<p><input type="text"/></p>
<p>3. The diagram below shows electric currents in conductors that meet at junction P.</p>  <p>What are the magnitude and direction of the current in conductor PQ?</p> <p>(1) 9 A toward P (2) 9 A toward Q (3) 5 A toward P (4) 5 A toward Q</p>	<p><input type="text"/></p>
<p>4. Three ammeters are placed in a circuit as shown below.</p>  <p>If A1 reads 5.0 amperes and A2 reads 2.0 amperes, what does A3 read?</p>	<p><input type="text"/></p>

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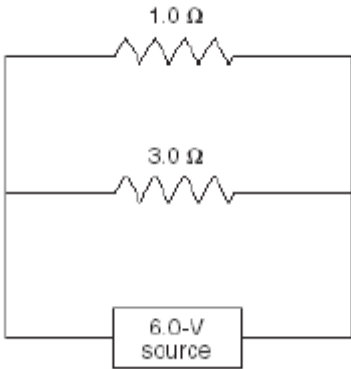
<p>(1) (3)</p> <p>(2) (4)</p> <p>5. Which diagram below correctly shows currents traveling near junction P in an electric circuit?</p>	<input type="text"/>
<p>6a) Find the total resistance</p> <p>6b) Find R</p>	<p>a) <input type="text"/></p> <p>b) <input type="text"/></p>
<p>7. The diagram below represents a simple electric circuit.</p> <p>How much charge passes through the resistor in 2.0 seconds?</p>	<input type="text"/>
<p>8. The diagram below shows two resistors connected in series to a 20.-volt battery.</p> <p>If the current through the 5.0-ohm resistor is 1.0 ampere, the current through the 15.0-ohm resistor is</p>	<input type="text"/>

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<p>9. Compared to the charge on a proton, the charge on an electron has the</p> <p>(1) opposite sign and a smaller magnitude (2) opposite sign and the same magnitude (3) same sign and a smaller magnitude (4) same sign and the same magnitude</p>	<input type="text"/>
<p>10. Conductivity in metallic solids is due to the presence of free</p> <p>(1) nuclei (2) protons (3) neutrons (4) electrons</p>	<input type="text"/>
<p>11. An electrostatic force of magnitude F exists between two metal spheres having identical charge q. The distance between their centers is r. Which combination of changes would produce no change in the electrostatic force between the spheres?</p> <p>(1) doubling q on one sphere while doubling r (2) doubling q on both spheres while doubling r (3) doubling q on one sphere while halving r (4) doubling q on both spheres while halving r</p>	<input type="text"/>
<p>12. Electrostatic force F exists between two point charges. If the distance between the charges is tripled, the force between the charges will be</p> <p>(1) $F/9$ (2) $F/3$ (3) $3F$ (4) $9F$</p>	<input type="text"/>
<p>13. A glass rod becomes positively charged when it is rubbed with silk. This net positive charge accumulates because the glass rod</p> <p>1 gains electrons 3 loses electrons 2 gains protons 4 loses protons</p>	<input type="text"/>
<p>14. A metal wire has length L and cross-sectional area A. The resistance of the wire is directly proportional to</p> <p>(1) $\frac{L}{A}$ (3) $\frac{A}{L}$ (2) $L \times A$ (4) $L + A$</p>	<input type="text"/>
<p>15. Base your answers to questions 32 and 33 on the diagram below, which shows two resistors and three ammeters connected to a voltage source.</p>  <p>a) What is the potential difference across the source?</p> <p>b) What is the current reading of ammeter A1?</p>	<input type="text"/>

Electricity Flash Cards

16. Base your answers to the questions below on the diagram below, which shows two resistors connected in parallel across a 6.0-volt source.



a) The equivalent resistance of the two resistors is

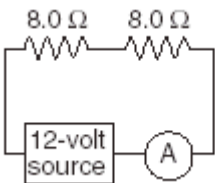
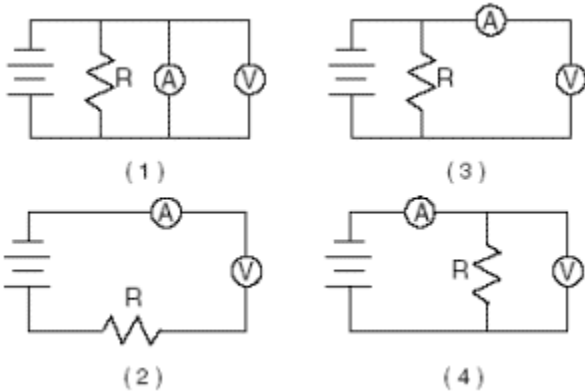
b) Compared to the power dissipated in the 1.0-ohm resistor, the power dissipated in the 3.0-ohm resistor is

(1) less (2) greater (3) the same

a)

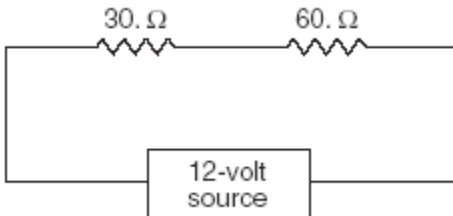
b)

17. Which circuit diagram below correctly shows the connection of ammeter A and voltmeter V to measure the current through and potential difference across resistor R?



18. The diagram below shows a circuit with two resistors. What is the reading on ammeter A?

19. A 30.-ohm resistor and a 60.-ohm resistor are connected in an electric circuit as shown below.



Compared to the electric current through the 30.-ohm resistor, the electric current through the 60.-ohm resistor is

(1) smaller (2) larger (3) the same