











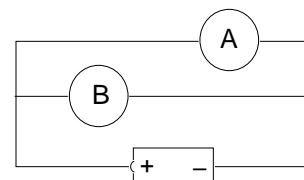
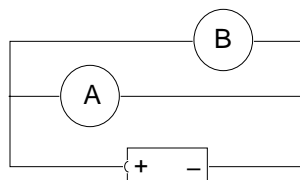


1. Which of the following is the correct symbol for the meter that measures current in a schematic diagram?
 A.  B.  C.  D.  E.  F. 

2. Which of the following is the correct symbol for a resistor in a schematic diagram?
 A.  B.  C.  D.  E.  F. 

3. As more resistors are added to a circuit in series, the electrical resistance of the circuit
 A. increases
 B. decreases
 C. remains constant
 D. may increase or decrease depending on the resistance of the added resistors

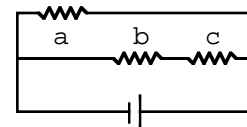
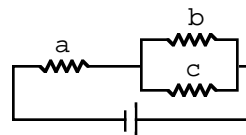
4. When bulbs A and B are connected as shown in the first diagram, bulb A is brighter. When connected as shown in the second diagram, bulb A will again be brighter
 A. bulb A will again be brighter
 B. bulb B will be brighter
 C. the bulbs will be equally bright
 D. neither bulb will light up



5. If you saw a string of lights shining with one bulb burned out, you could conclude that the bulbs are wired
 A. in series
 B. in parallel
 C. no conclusion can be drawn

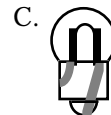
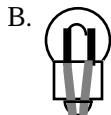
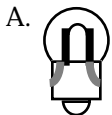
6. Two bulbs, A and B, are connected in series to a battery. Bulb A is brighter. If connected in parallel to the same battery, bulb A would
 A. be brighter than bulb B
 B. be dimmer than bulb B
 C. have the same brightness as bulb B

7. Consider the two compound circuits shown to the right. The three bulbs, a, b, and c, are identical. In **both** circuits,
 I. a would remain lit if b were removed
 II. b would remain lit if a were removed
 III. a would remain lit if c were removed

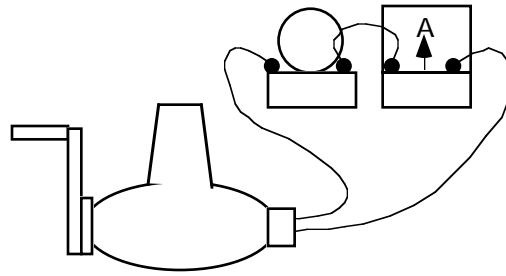


- A. I only
 B. II only
 C. III only
 D. I and II only
 E. I and III only
 F. II and III only
 G. I, II and III
 H. None

8. Which diagram most accurately shows the wiring inside a lightbulb?

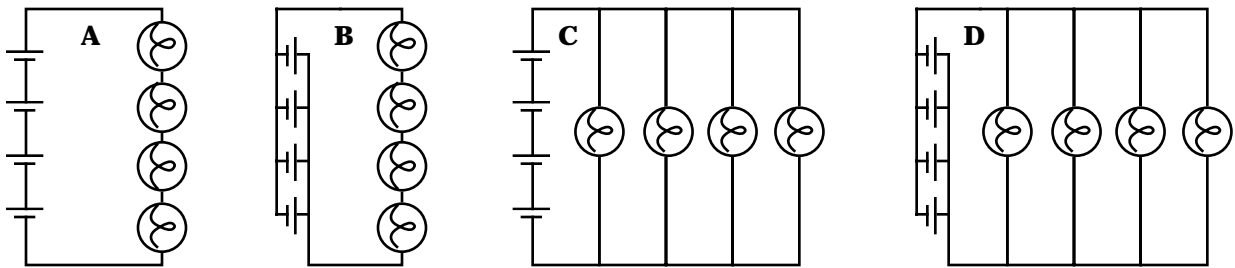


Consider the arrangement shown. A Genecon is used to power a light bulb. The current through the circuit is measured using an ammeter.



9. If a wire connecting the two terminals of the bulb socket directly to each other were added (while someone was cranking the Genecon), the light would go out, the Genecon would be ? to crank, and the reading in the ammeter would ?.
- | | | |
|---------------------------|-----------------------------|---------------------------|
| A. easier; decrease | B. easier; not change | C. easier; increase |
| D. just as hard; decrease | E. just as hard; not change | F. just as hard; increase |
| G. harder; decrease | H. harder; not change | I. harder; increase |

Consider the four circuits, A-D, shown below. The batteries and bulbs are identical in all circuits.



10. In which circuit will the bulbs be dimmest?
- A. Circuit A B. Circuit B C. Circuit C D. Circuit D
11. Which diagram below indicates the proper connection of a voltmeter and ammeter so as to measure the current through and voltage across a resistor? (A=ammeter, V=voltmeter)

