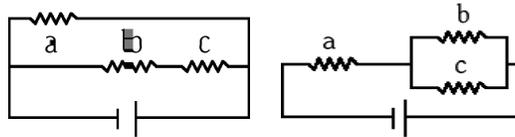


PracTest: Current & Circuits

- [Travellers' Tales] *Voyager* bears a message in the form of a __?__
 A. wax cylinder C. magnetic tape E. memory card
 B. phonograph record D. compact disc
- [Travellers' Tales] The biggest gap in Saturn's rings is called the __?__ Division.
 A. Cassini B. Galileo C. Huygens D. Joy E. Kepler

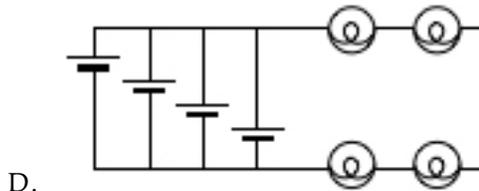
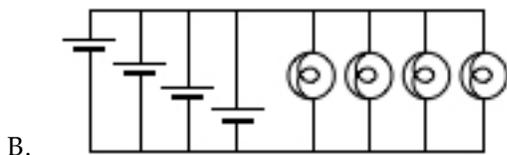
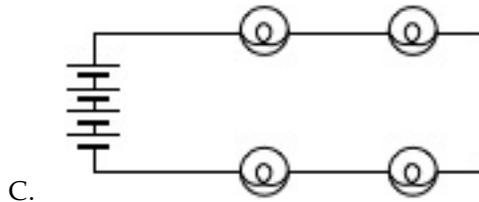
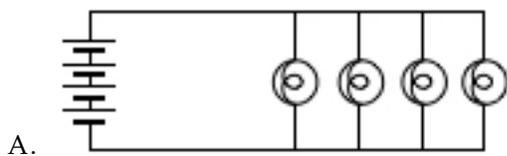
- Which of the following is the correct symbol for a resistor in a schematic diagram?
 A.  B.  C.  D.  E. 

- Consider the two compound circuits shown below. The three bulbs, a, b, and c, are identical. In BOTH circuits,
 I. bulb a would remain lit if bulb b were removed
 II. bulb b would remain lit if bulb a were removed
 III. bulb a would remain lit if bulb c were removed



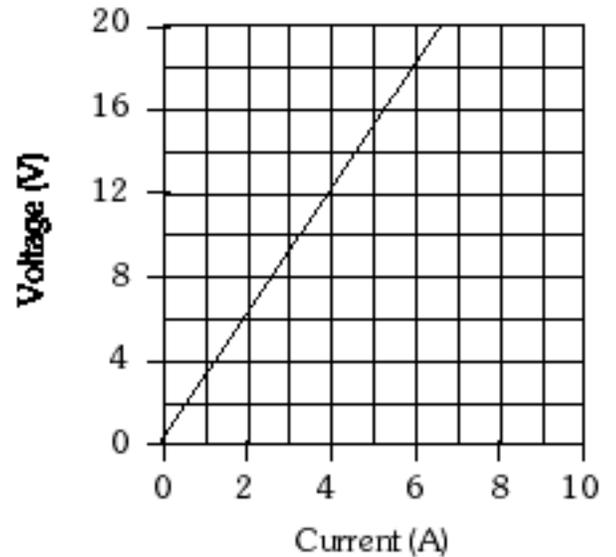
- Which diagram most accurately shows the wiring inside a lightbulb?
 A.  B.  C. 

- Consider the four circuits, A-D, shown below. The batteries and bulbs are identical in all circuits. In which circuit will the bulbs be dimmest?



7. In a simple circuit, conventional current flows from the _?_ terminal of the battery to the _?_ terminal of the battery.
- A. positive; negative
B. negative; positive
C. positive; positive
D. negative; negative
8. How long does it take for 8 C to pass a point in a wire that carries 2 A of current?
- A. 0.25 s
B. 0.5 s
C. 2 s
D. 4 s
E. 16 s
F. 32 s
9. Consider two circuits, A and B. Both circuits have the same voltage, but B has more current. The circuit with more resistance is circuit
- A. A
B. B
C. Same for both
10. How much current passes through a 24 Ω circuit when 12 V are applied?
- A. 21 mA
B. 0.5 A
C. 2.0 A
D. 6.0 A
E. 288 A
F. 3.5 kA
11. Consider two circuits, A and B. Each circuit has the same voltage, but circuit B has more resistance. The circuit that uses the most power is circuit
- A. A
B. B
C. Same for both
12. Consider two circuits, A and B. Each circuit has the same resistance, but circuit B has more voltage. The circuit that uses the most power is circuit
- A. A
B. B
C. Same for both

13. A variable power supply was connected to a resistor. The voltage and current were varied, and the results were plotted on the graph shown.



What was the resistance of the resistor?

- A. 0.67Ω C. 2.0Ω E. 6.0Ω
B. 1.5Ω D. 3.0Ω F. 20Ω
14. In the Electric Fence video demo, several barefoot Brainiacs held hands while one grabbed the electric fence. All Brainiacs experienced the same (fairly intense) shock when
- A. all were simply standing on the ground.
B. all were standing standing on Styrofoam tiles.
C. all but the one farthest from the fence were standing on Styrofoam tiles.
D. Actually, they all experienced different shocks under all circumstances shown.
15. An ammeter is always connected in _?_ with the circuit element it's measuring.
- A. series B. parallel C. neither
16. A voltmeter is always connected in _?_ with the circuit element it's measuring.
- A. series B. parallel C. neither

PracTest: Current & Circuits

Answer Section

MULTIPLE CHOICE

- | | | |
|------------|-------------------------------|--------------------|
| 1. ANS: B | TOP: Travellers' Tales | |
| 2. ANS: A | TOP: Travellers' Tales | |
| 3. ANS: D | TOP: Circuit Symbols | NOT: PracTest |
| 4. ANS: E | TOP: Compound Circuit | NOT: PracTest |
| 5. ANS: C | TOP: Be The Battery Lab | NOT: PracTest |
| 6. ANS: D | TOP: Be The Battery Lab | NOT: UT8-04 UT9-07 |
| 7. ANS: A | TOP: Simple Circuit Elements | NOT: PracTest |
| 8. ANS: D | TOP: $I = q/t$ | NOT: PracTest |
| 9. ANS: A | TOP: Ohm's Law Comparatives | NOT: PracTest |
| 10. ANS: B | TOP: $I = V/R$ | NOT: PracTest |
| 11. ANS: A | TOP: Joule's Law Comparatives | NOT: PracTest |
| 12. ANS: B | TOP: Joule's Law Comparatives | NOT: PracTest |
| 13. ANS: D | TOP: Ω on the Range | NOT: UT7-04 |
| 14. ANS: C | TOP: Brainiac Electric Fence | |
| 15. ANS: A | TOP: Meters | |
| 16. ANS: B | TOP: Meters | |