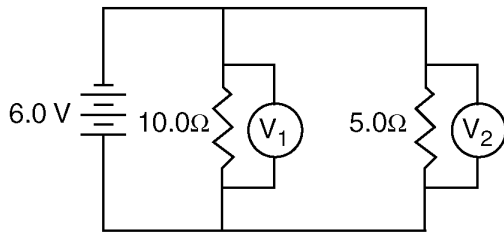
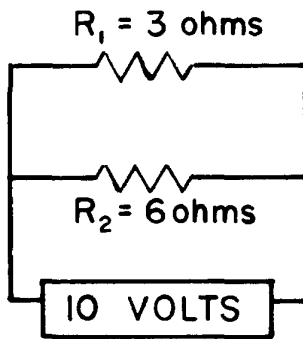


Parallel Circuit Problems

1. In the circuit diagram below, what are the correct readings of voltmeters V_1 and V_2 ?



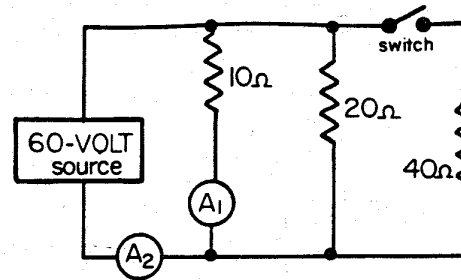
- A) V_1 reads 2.0 V and V_2 reads 4.0 V
 B) V_1 reads 4.0 V and V_2 reads 2.0 V
 C) V_1 reads 3.0 V and V_2 reads 3.0 V
 D) V_1 reads 6.0 V and V_2 reads 6.0 V
2. Base your answer to the following question on the diagram below.



The voltage drop across R_1 is

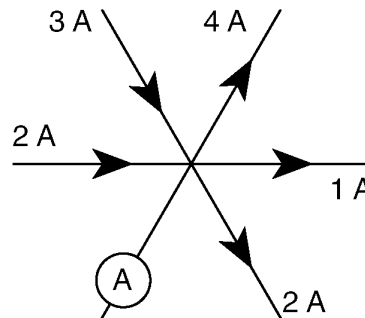
- A) 6 V B) 9 V C) 3 V D) 10 V

3. Base your answer to the following question on the electric circuit below. The switch is in the open position.



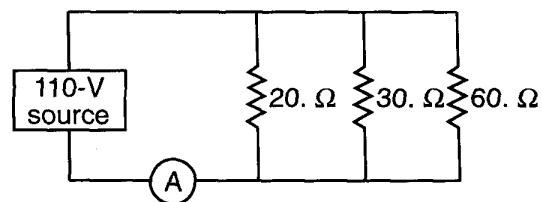
Compared to the potential drop across the 10.-ohm resistor, the potential drop across the 20.-ohm resistor is

- A) less B) greater
 C) the same
4. The diagram below represents currents in a segment of an electric circuit.



What is the reading of ammeter A ?

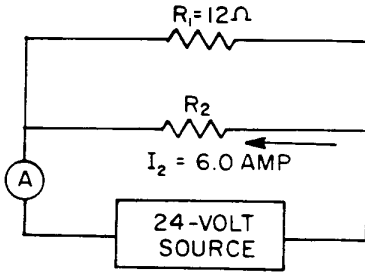
- A) 1 A B) 2 A C) 3 A D) 4 A
5. In the diagram below of a parallel circuit, ammeter A measures the current supplied by the 110-volt source.



The current measured by ammeter A is

- A) 1.0 A B) 0.10 A
 C) 5.5 A D) 11 A

Base your answers to questions 6 and 7 on the diagram of the circuit below.



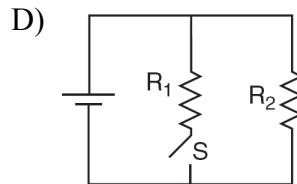
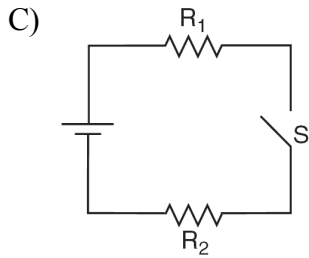
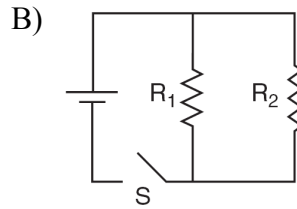
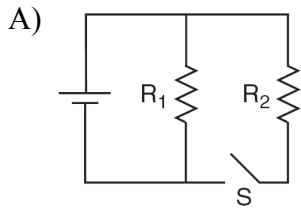
6. If resistance R_2 were removed, the current in ammeter A would

- A) decrease
- B) increase
- C) remain the same

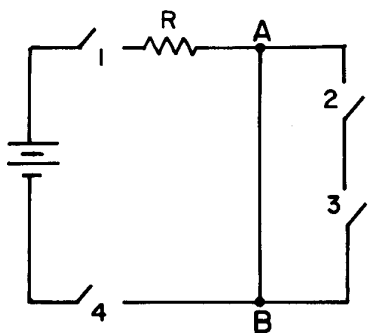
7. The current in ammeter A is

- A) 1.0 A
- B) 2.0 A
- C) 6.0 A
- D) 8.0 A

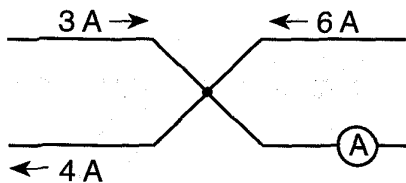
8. In which circuit would current flow through resistor R_1 , but *not* through resistor R_2 while switch S is open?



9. In the circuit represented below, which switches must be closed to produce a current in conductor AB ?



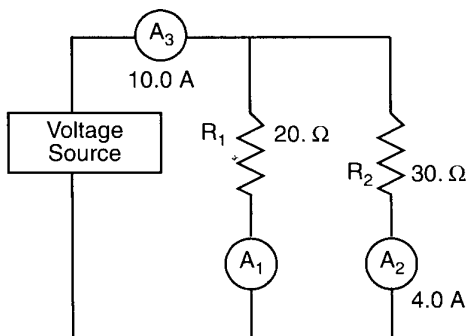
- A) 1 and 4 B) 2 and 3
C) 1, 2, and 3 D) 2, 3, and 4
10. The diagram below shows the current in a segment of a direct current circuit.



What is the reading of ammeter A ?

- A) 1 A B) 5 A C) 7 A D) 8 A

Base your answers to questions 11 and 12 on the diagram below, which shows two resistors and three ammeters connected to a voltage source.



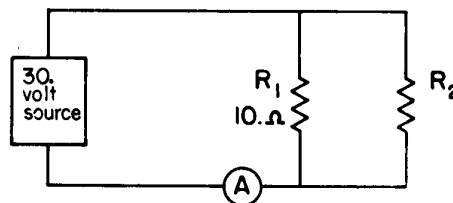
11. What is the current reading of ammeter A_1 ?

- A) 10.0 A B) 6.0 A
C) 3.0 A D) 4.0 A

12. What is the potential difference across the source?

- A) 440 V B) 220 V
C) 120 V D) 60. V

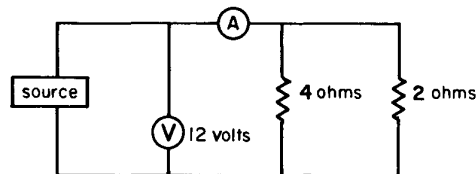
13. Base your answer to the following question on the diagram below which represents two resistances (R_1 and R_2) and an ammeter connected to a constant 30. volt source. The combined resistance of the circuit is 6.0 ohms.



Ammeter A reads

- A) 7.5 A B) 5.0 A
C) 3.0 A D) 1.2 A

14. Base your answer to the following question on the diagram below which represents an electric circuit. The voltmeter, V , reads 12 volts.



Ammeter A should read

- A) 6 A B) 2 A C) 3 A D) 9 A

15. When three 30-ohm resistors are connected in parallel across a 9-volt source, the total current is

- A) 0.10 A B) 0.30 A
C) 0.45 A D) 0.90 A