Name_____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

1) Technician A says that electronic calculators have a memory function that can be used to calculate resistance, current, and voltage values for a parallel circuit. Technician B says to separate components of a series–parallel circuit to simplify calculations. Which technician is correct?
    A) Technician A only
    B) Technician B only
   C) Both technicians
    D) Neither technician

1) _____

2) In a series circuit _____.
    A) total circuit resistance is equal to the sum of all resistances in the circuit
    B) current flow is constant at any point in the circuit
    C) both A and B
    D) neither A nor B

2) _____

3) Two light bulbs are wired in series and one bulb burns out (opens.) Technician A says that the other bulb will still work. Technician B says that the current will increase in the circuit because one electrical load (resistance) is no longer operating. Which technician is correct?
    A) Technician A only
    B) Technician B only
    C) Both technicians
    D) Neither technician

3) _____

4) What is the total resistance of this circuit?

4) _____
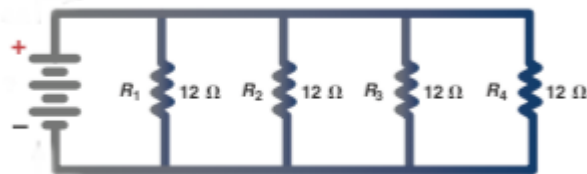
    A) 4 ohms
    B) 36 ohms
    C) 3 ohms
    D) Not enough information

5) The amperage in a series circuit _____.
    A) is the same anywhere in the circuit
    B) varies in the circuit due to the different resistances
    C) is high at the beginning of the circuit and decreases as the current flows through the resistance
    D) is always less returning than leaving the battery

5) _____

6) The current flowing into each junction of a parallel circuit _____ the current flow at the junction on the opposite end of that branch.
    A) equals
    B) is less than
    C) is more than
    D) none of these

6) _____

7) A series circuit has three resistors of 4 ohms each. The voltage drop across each resistor is 4 volts. Technician A says that the source voltage is 12 volts. Technician B says that the total resistance is 18 ohms. Which technician is correct?
    A) Technician A only
    B) Technician B only
    C) Both technicians
    D) Neither technician

7) _____

8) Two bulbs are connected in parallel to a 12–volt battery. One bulb has a resistance of 6 ohms and the other bulb has a resistance of 2 ohms. Technician A says that only the 2–ohm bulb will light because all of the current will flow through the path with the least resistance and no current will flow through the 6–ohm bulb. Technician B says that the 6–ohm bulb will be dimmer than the 2–ohm bulb. Which technician is correct?
    A) Technician A only
    B) Technician B only
    C) Both technicians
    D) Neither technician

8) _____

9) If a 12–volt battery is connected to a series circuit with three resistors of 2 ohms, 4 ohms, and 6 ohms, how much current will flow through the circuit?
    A) 1 amp
    B) 2 amps
    C) 3 amps
    D) 4 amps

9) _____

10) Technician A says that the sum of the voltage drops in a series circuit should equal the source voltage. Technician B says the current (amperes) varies depending on the value of the resistance in a series circuit. Which technician is correct?
    A) Technician A only
    B) Technician B only
    C) Both technicians
    D) Neither technician

10) _____

1) C
   Page Ref: 474-475
2) C
   Page Ref: 468
3) D
   Page Ref: 469
4) A
   Page Ref: 474
5) A
   Page Ref: 470
6) A
   Page Ref: 472
7) A
   Page Ref: 469
8) B
   Page Ref: 472
9) A
   Page Ref: 471
10) C
   Page Ref: 469