Science 9
TYPES OF CIRCUITS WORKSHEET

1. Determine the **total resistance** for each of the following circuits below.

a) 7Ω 5Ω 2Ω
b) 2Ω 5Ω
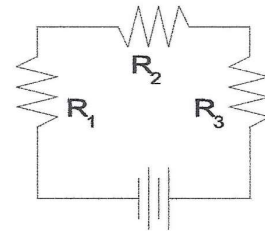c) 2Ω 5Ω 7Ω
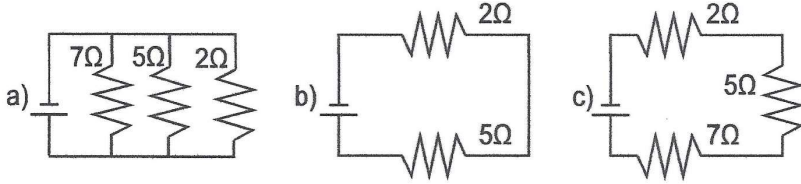
2. Determine the **total voltage** (electric potential) for each of the following circuits below.

a) 3V 4V 6V
b) 6V 6V
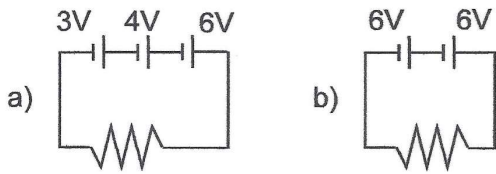
3. Fill out the table for the circuit diagramed at the right. (Use **pHet** to get Voltage Values & Calculate Current)

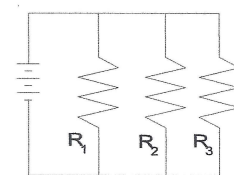| Circuit Position	Voltage (V)	Current (A)	Resistance (Ω)
1			10.0 Ω
2			20.0 Ω
3			30.0 Ω
Total	6.00 V		

4. Fill out the table for the circuit diagramed at the right. (Use **pHet** to get Voltage Values & Calculate Current)

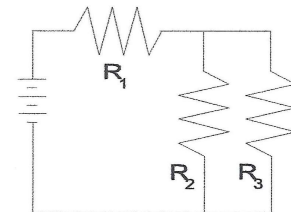| Circuit Position	Voltage (V)	Current (A)	Resistance (Ω)
1			10.0 Ω
2			20.0 Ω
3			30.0 Ω
Total	6.00 V		

5. Fill out the table for the circuit diagramed at the right. (Use **pHet** to get Voltage Values & Calculate Current)

Circuit Position	Voltage (V)	Current (A)	Resistance (Ω)
1			10.0 Ω
2			20.0 Ω
3			30.0 Ω
Total	6.00 V		

Questions 6 and 7 refer to the following:
The diagram below represents an electric circuit consisting of four resistors and a 12-volt battery
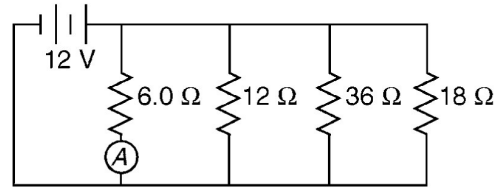
6) **Calculate the current** measured by ammeter A shown in the diagram?

7) What is the **total resistance** of the circuit shown?

Questions 8 and 9 refer to the following:
A 50.-ohm resistor, an unknown resistor R, a 120-volt source, and an ammeter are connected in a complete circuit. The ammeter reads 0.50 ampere.
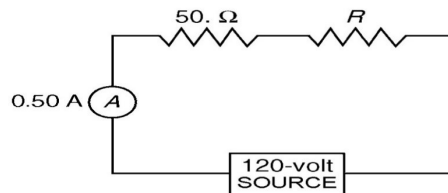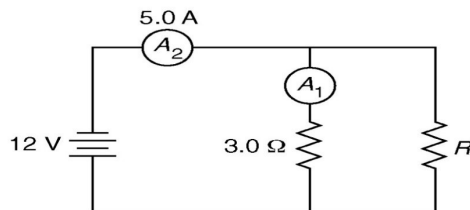

8) Calculate the:
a. **Voltage** of the 50- ohm resistor   b. **voltage of R** of the circuit shown.

9) **Determine the resistance** of resistor R shown in the diagram.

Questions 10 through 12 refer to the following:
A 3.0-ohm resistor, an unknown resistor, R, and two ammeters, A_1 and A_2, are connected as shown below with a 12-volt source. Ammeter A_2 reads a current of 5.0 amperes.

10) Calculate the **resistance** of the unknown resistor, R in the diagram shown.

11) Calculate the **current** measured by ammeter A_1 in the diagram shown.

12) Determine the **total resistance** of the circuit shown.