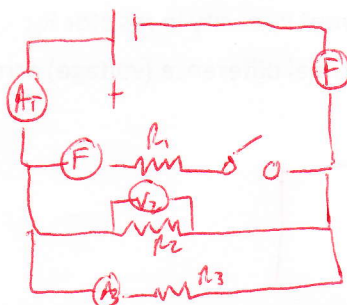


## Circuit Worksheet #1

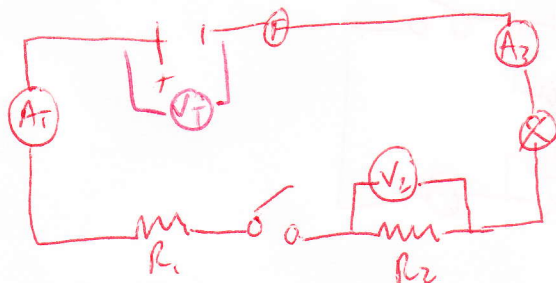
1. Draw a parallel circuit using the following parameters:

- Three possible pathways
- A switch that controls resistor 1 only
- A voltmeter at resistor 2 (use  $V_2$ )
- An ammeter for total current (use  $A_t$ )
- A fuse controlling the whole circuit
- A fuse controlling resistor 1
- An ammeter for resistor 3 (use  $A_3$ )



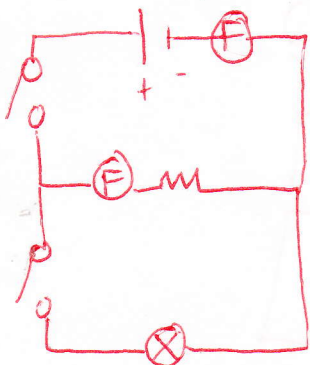
2. Draw a series circuit using the following parameters:

- Two resistors and a light bulb.
- A switch between the 2 resistors.
- A voltmeter that reads total voltage (use  $V_t$ )
- A voltmeter that reads resistor 2 (use  $V_2$ )
- An ammeter that reads current for the light bulb (use  $A_3$ )
- An ammeter that reads total current (use  $A_t$ )
- A fuse which controls the circuit.



3. Using conventional symbols, draw a diagram representing a parallel circuit containing the items listed below.

- a bulb
- a resistor
- a switch for the whole circuit
- a switch for the light bulb
- a fuse for the whole circuit
- a fuse for the resistor and a power supply

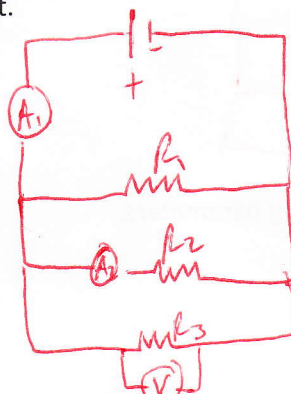


4. An electric circuit consists of the following elements :

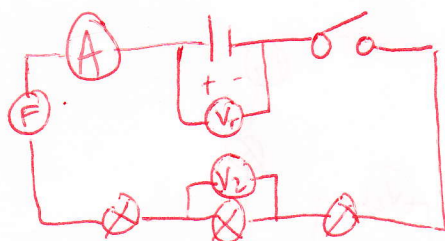
- a power supply  $\text{---} \text{+} \text{---}$ ;

- three resistors,  $R_1$ ,  $R_2$  and  $R_3$  connected in parallel;
- an ammeter  $A_1$  that measures the total current intensity in this circuit;
- an ammeter  $A_2$  that measures the current intensity in resistor  $R_2$ ;
- a voltmeter  $V$  that measures the potential difference (voltage) across the terminals of resistors  $R_3$ .

Draw a diagram of this circuit.



5. Draw a circuit with one pathway, include a fuse, 3 light bulbs, a control (switch). Put an ammeter, a voltmeter for total voltage and a voltmeter for light bulb 2.



6. Draw a circuit with three pathways, include 2 resistors and a light bulb, an ammeter for total current, an ammeter for resistor 1 and 2, an ammeter for the light bulb, a fuse for resistor 2, a control for the whole circuit, a control for resistor 1 and a control for resistor 2 and the light bulb.

