Name: __HNSWEKS__   Date: _____

BCI SCIENCE
SNC 1D

**Practice Drawing Series &
Parallel Circuits**

A. Draw schematic diagrams of each of the following circuits described below.
B. Assume each cell is 4 volts.
C. Draw a Voltmeter across only one bulb. Indicate the voltage reading you would see on the voltmeter on that point. Hint: To calculate voltage, take the voltage and divide by the number of loads in series.

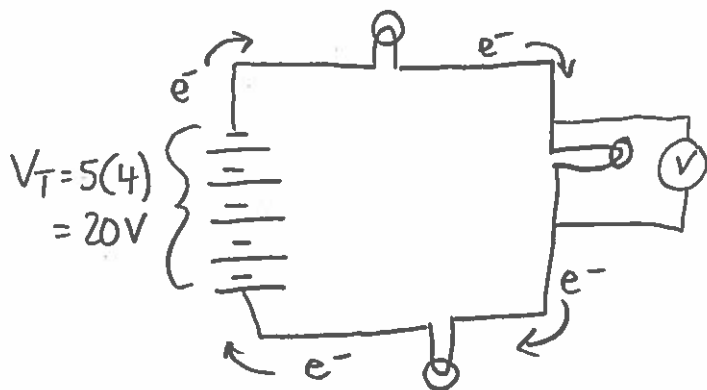1. 3 cells in series with 2 bulbs that are also in series. $V_1 =$ __6 V__

$V_T = V_1 + V_2 + V_3$
$= 3(4)$
$= 12V$
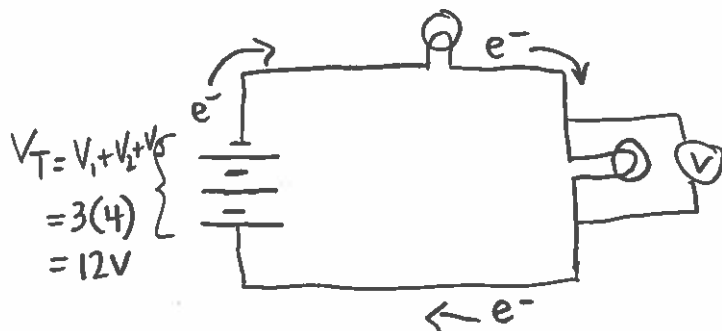
$$\frac{12V}{2 \text{ lights in series}} = 6V$$

2. 5 cells in series with 2 bulbs that are also in series. $V_2 =$ __6.7__ V

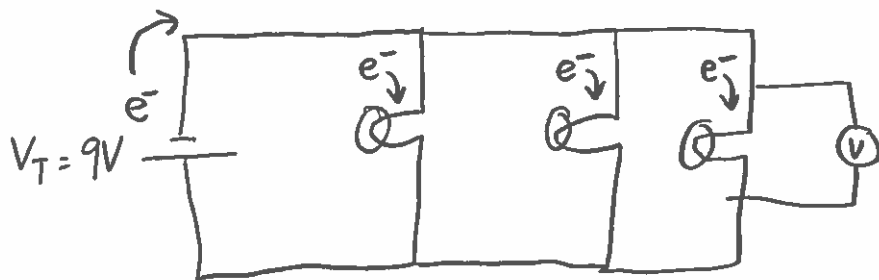$V_T = 5(4)$
$= 20V$

$$\frac{20V}{3 \text{ L.B. in series}} \doteq 6.\overline{6}V$$

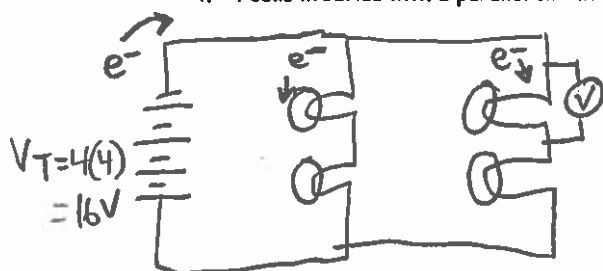3. One 9 volt battery, with three bulbs in parallel. $V_3 =$ __9V__

$V_T = 9V$

$$\frac{9V}{1 \text{ light}} = 9V$$
(parallel)

4. 4 cells in series with 2 parallel circuits containing 2 bulbs each. $V_4 =$ __8 V__

$V_T = 4(4)$
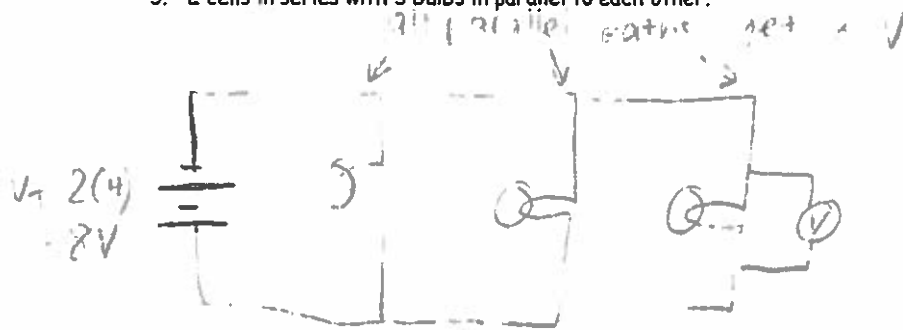$= 16V$

$$\frac{16V}{2 \text{ lights}} = 8V$$

5. 2 cells in series with 3 bulbs in parallel to each other. $V_5 = $ _8 V_

$V_T = 2(4)$
$= 8V$

6. 3 cells in series that ARE PARALLEL TO another 3 cells that are in series, ALL of which are PARALLEL to 4 bulbs. $V_6 = $ _3V_

$V_T = 3(4)$
$= 12V$
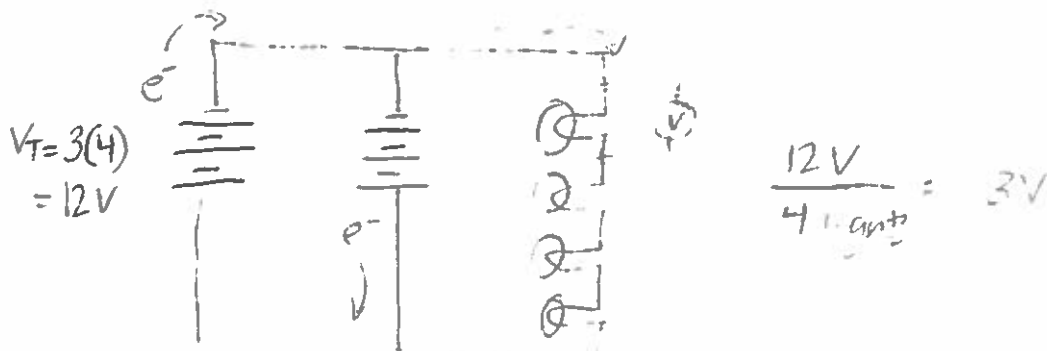
$$\frac{12V}{4 \text{ bulbs}} = 3V$$

7. 2 cells in parallel with 2 bulbs that are in series. $V_7 = $ ___

8. 3 cells in parallel with 2 bulbs that are parallel to each other. $V_8 = $ ___
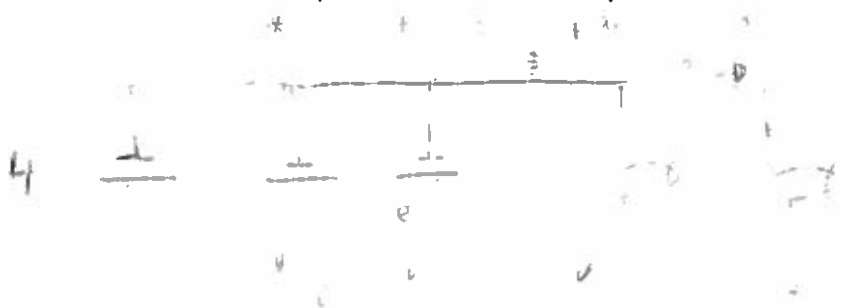
9. 6 cells in series with 3 bulbs that are parallel to each other. $V_9 = $ ___