SERIES VS. PARALLEL COMPARISON SHEET

SERIES	PARALLEL
<u>CURRENT OR AMPERES</u> A. 1 PATH TO FOLLOW B. ALWAYS THE SAME EVERYWHERE C. $I_{TOTAL} = I_1 = I_2 = I_3 = ...$ D. I = E/R	<u>CURRENT OR AMPERES</u> A. MORE THAN 1 PATH B. THE SUM OF ALL BRANCH CURRENTS C. $I_{TOTAL} = I_1 + I_2 + I_3 + ...$ D. I = E/R
<u>EMF OR VOLTAGE</u> A. TOTAL VOLTS = SUM OF ALL RESISTOR VOLTS $V_{TOTAL} = V_1 + V_2 + V_3 + ...$ $(E_{TOTAL} = E_1 + E_2 + E_3 + ...)$ B. E = IR	<u>EMF OR VOLTAGE</u> A. ALL RESISTANCES (LOADS) GET FULL EMF OR VOLTAGE $V_{TOTAL} = V_1 = V_2 = V_3 =.....$ $(E_{TOTAL} = E_1 = E_2 = E_3 = ...)$ B. E = IR
<u>RESISTANCE (OHMS)</u> A. TOTAL RESISTANCE IS THE SUM OF ALL THE RESISTORS $R_{TOTAL} = R_1 + R_2 + R_3 + ...$ B. R = E/I C. AS YOU ADD RESISTORS IN SERIES: RESISTANCE GOES UP CURRENT GOES DOWN	<u>RESISTANCE (OHMS)</u> A. TOTAL RESISTANCE IS THE SUM OF THE RECIPROCALS $1/R_{TOTAL} = 1/R_1 + 1/R_2 + 1/R_3$ (then invert answer or take reciprocal) B. R = E/I C. AS YOU ADD RESISTORS IN PARALLEL: RESISTANCE GOES DOWN CURRENT GOES UP