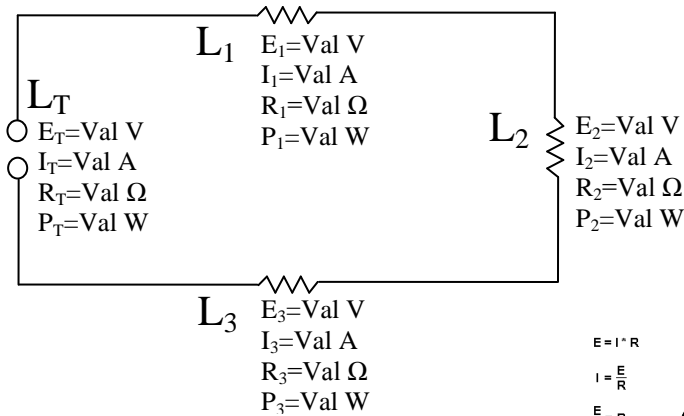




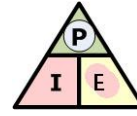
**INTRODUCTION TO SERIES CIRCUIT CALCULATIONS**

A series circuit is a circuit (cct) which all the devices are connected so that there is only one path for current to flow. Certain rules apply to a series cct. Using Ohms Law and Series circuit laws we can easily determine missing values if we have enough variables known. This can aid in trouble shooting circuits quickly and understand what is happening in a cct.

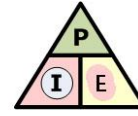


		Series laws			
		$L_1$	$L_2$	$L_3$	$L_T$
Ohms Law	E v	$E_1 + E_2 + E_3 = E_T$			
	I A	$I_1 = I_2 = I_3 = I_T$			
	R $\Omega$	$R_1 + R_2 + R_3 = R_T$			
	P W	$P_1 + P_2 + P_3 = P_T$			

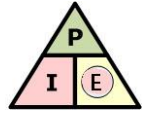
$E = I \cdot R$   
 $I = \frac{E}{R}$   
 $\frac{E}{I} = R$



$P = I \times E$



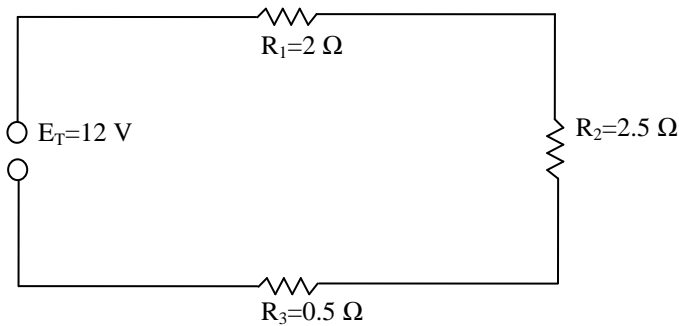
$I = \frac{P}{E}$



$E = \frac{P}{I}$

**SAMPLE QUESTION**

Show order of operations, formulas, substitution, units, and all rough work calculations using appropriate units-of-measure, 2 decimal places, with all answers circled. Half mark for the correct answer, the other half for all work shown. **Bonus mark** for properly & correctly double-checking, using a formula not yet used.



		Series laws			
		$L_1$	$L_2$	$L_3$	$L_T$
Ohms Law	E v				
	I A				
	R $\Omega$				
	P W				