Series

	R1	R2	R3	TOTAL
E	➡			ADD
I	➡			EQUAL
R	➡			ADD
P	➡			ADD

Parallel

	R1	R2	R3	TOTAL
E	➡			EQUAL
I	➡			ADD
R	➡			DIMINISH
P	➡			ADD

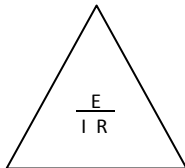$E_{total} = E_1 + E_2 + E_3$

$R_{total} = R_1 + R_2 + R_3$

$P_{total} = P_1 + P_2 + P_3$

$I_{total} = I_1 = I_2 = I_3$

$E_{total} = E_1 = E_2 = E_3$

$I_{total} = I_1 + I_2 + I_3$

$$R_{total} = \frac{1}{\frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}}$$

$P_{total} = P_1 + P_2 + P_3$

If you know E and I, and wish to determine R, just eliminate R from the picture and see what's left