Resistor Circuit cheat sheet

$$V = IR \quad P = IV \quad P = V^2/R \quad P = I^2R$$

R1    R2    R3

Voltage:    $V_T = V_1 + V_2 + V_3$

Current:    $I_T = I_1 = I_2 = I_3$

Resistance:    $R_T = R_1 + R_2 + R_3$

$R_1$
$R_2$
$R_3$
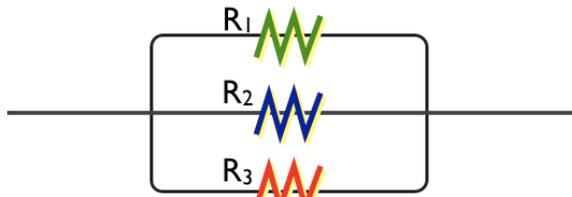
Voltage:    $V_T = V_1 = V_2 = V_3$

Current:    $I_T = I_1 + I_2 + I_3$

Resistance:  $1/R_T = 1/R_1 + 1/R_2 + 1/R_3$
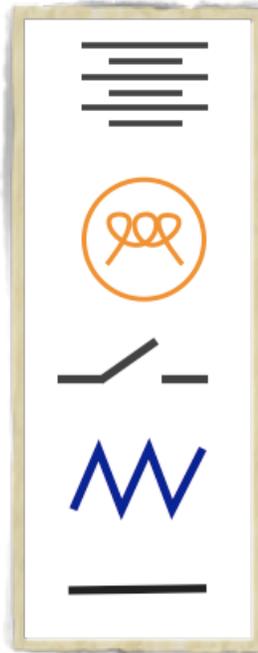
| | |
|---|---|
| | Black |
| | Brown |
| | Red |
| | Orange |
| | Yellow |
| | Green |
| | Blue |
| | Violet |
| | Gray |
| | White |
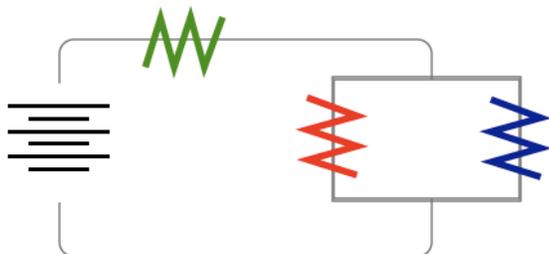
**Honors Addition**
**Point rule: The sum of currents entering a point equals the sum of the currents leaving it.**

**Loop rule: The sum of the changes in potential around a closed loop is zero.**

| | V (V) | I (A) | R (Ω) | P (W) |
|---|---|---|---|---|
| R1 | | | | |
| R2 | | | | |
| R3 | | | | |
| TOTAL | | | | |

30 Ω    h
$I_1$
40 Ω    $I_3$    $r = 1\,\Omega$    $\mathcal{E}_2 = 45$ V
a    b    c    d
20 Ω
$\mathcal{E}_1 = 80$ V    $r = 1\,\Omega$
$I_2$
g    f    e
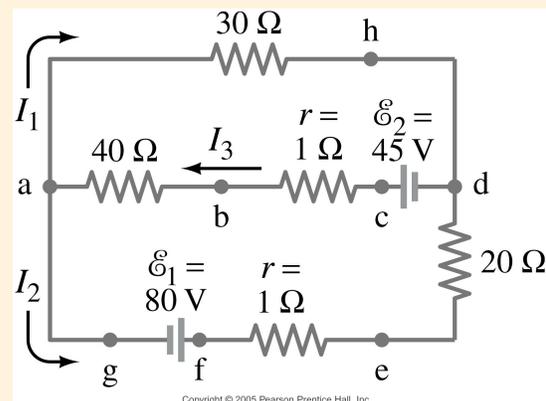
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Show your true potential, and get amped up for the last real test