Physics 200 Chapter 20-21 4-Minute Drill

Key

Current in terms of charge and time $I = \frac{\Delta Q}{\Delta t}$

Current in terms of Ohm's Law $I = \frac{V}{R}$

Potential Difference in terms of Ohm's Law $V = IR$

Equivalent resistance for three equal resistors in series $R_{eq} = R_1 + R_2 + R_3$

Equivalent resistance for three equal resistors in parallel $\frac{1}{R_{eq}} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}$

Relationship between resistance and resistivity $R = \frac{\rho L}{A}$

3 versions of power $P = IV = \frac{V^2}{R} = I^2 R$

Relationship between total current and current through each of 3 resistors in series

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

Relationship between total current and current through each of 3 resistors in parallel

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

Relationship between power supply voltage and the potential drop across each of 3 resistors in series

$$V_{\substack{Power \\ Supply}} = V_1 + V_2 + V_3$$

Relationship between power supply voltage and the potential drop across each of 3 resistors in parallel

$$V_{\substack{Power \\ Supply}} = V_1 = V_2 = V_3$$

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Take Two

Equivalent resistance for three equal resistors in parallel $\frac{1}{R_{eq}} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}$

Relationship between power supply voltage and the potential drop across each of 3 resistors in parallel $V_{\text{Power Suppy}} = V_1 = V_2 = V_3$

Potential Difference in terms of Ohm's Law $V = IR$

Equivalent resistance for three equal resistors in series $R_{eq} = R_1 + R_2 + R_3$

Relationship between power supply voltage and the potential drop across each of 3 resistors in series $V_{\text{Power Suppy}} = V_1 + V_2 + V_3$

Relationship between resistance and resistivity $R = \frac{\rho L}{A}$

Current in terms of charge and time $I = \frac{\Delta Q}{\Delta t}$

3 versions of power $P = IV = \frac{V^2}{R} = I^2 R$

Relationship between total current and current through each of 3 resistors in series $I_{TOT} = I_1 = I_2 = I_3$

Current in terms of Ohm's Law $I = \frac{V}{R}$

Relationship between total current and current through each of 3 resistors in parallel $I_{TOT} = I_1 + I_2 + I_3$