# Series Parallel Math Example 1

Math

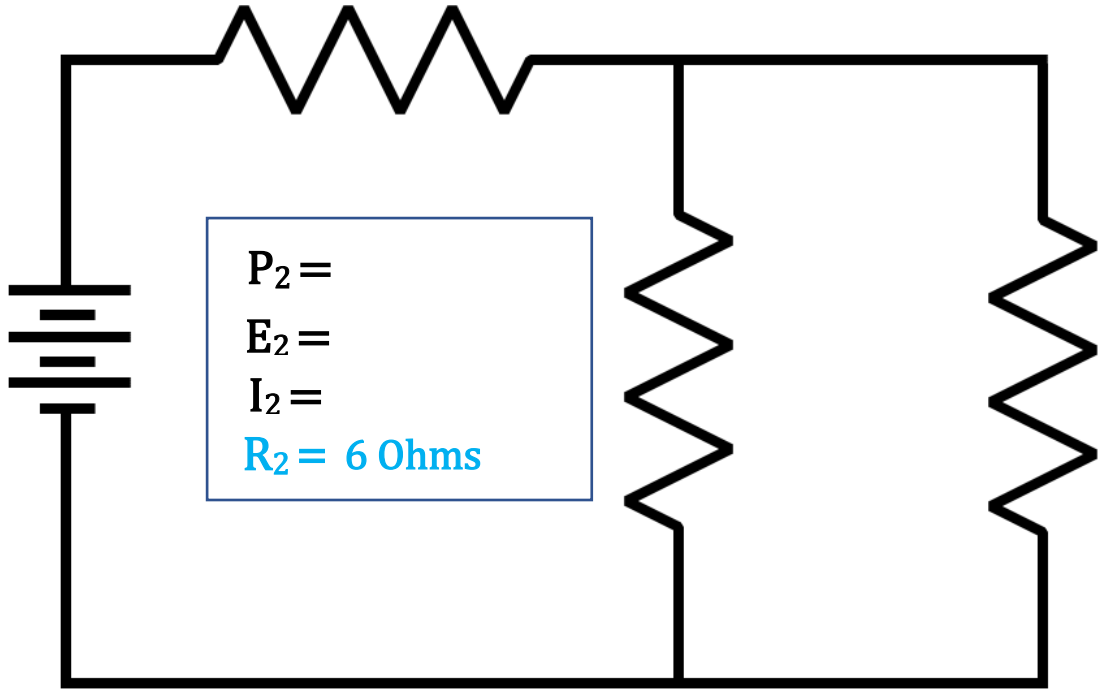
Rule

$P_1 =$

$E_1 =$

$I_1 =$

$R_1 =$ 4 Ohms



$P_T =$

$E_T =$ 12.6 Volts

$I_T =$

$R_T =$

$P_2 =$

$E_2 =$

$I_2 =$

$R_2 =$ 6 Ohms

$P_3 =$

$E_3 =$

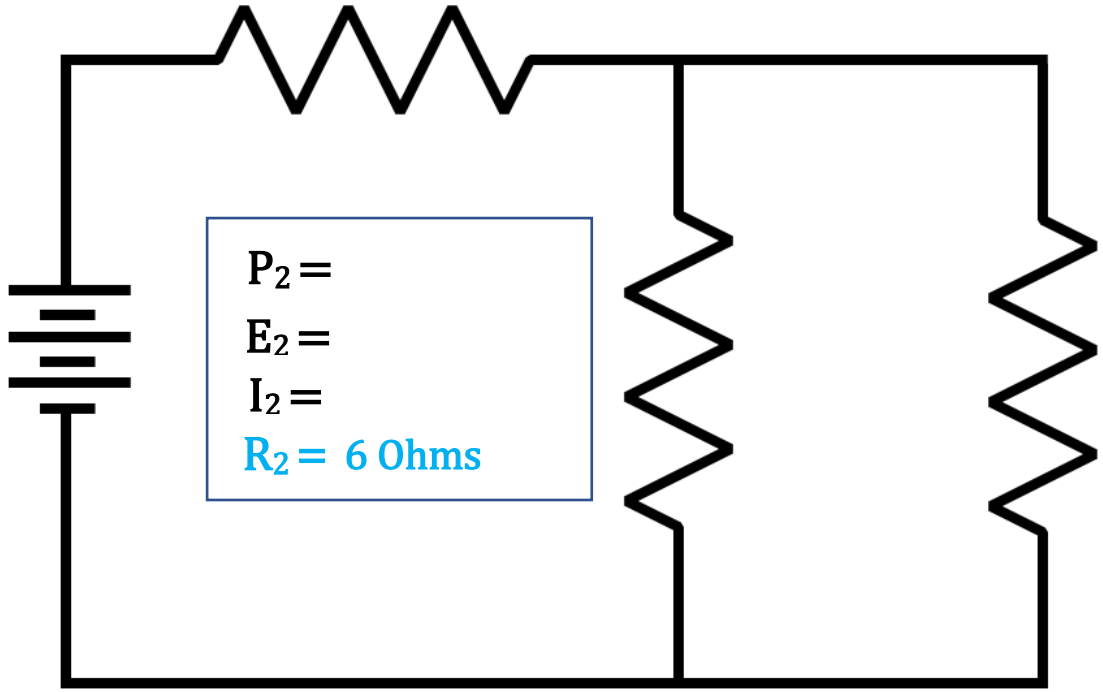
$I_3 =$

$R_3 =$ 9 Ohms

Math

Rule

$P_1 =$
$E_1 =$
$I_1 =$
$R_1 =$ 4 Ohms



$P_T =$
$E_T =$ 12.6 Volts
$I_T =$
$R_T =$

$P_2 =$
$E_2 =$
$I_2 =$
$R_2 =$ 6 Ohms

$P_3 =$
$E_3 =$
$I_3 =$
$R_3 =$ 9 Ohms

$$R_{2,3} = \frac{R_2 \times R_3}{R_2 + R_3} \qquad R_{2,3} = \frac{6 \times 9}{6+9} \qquad R_{2,3} = \frac{54}{15} \qquad R_{2,3} = 3.6 \text{ Ohms}$$

**Math**

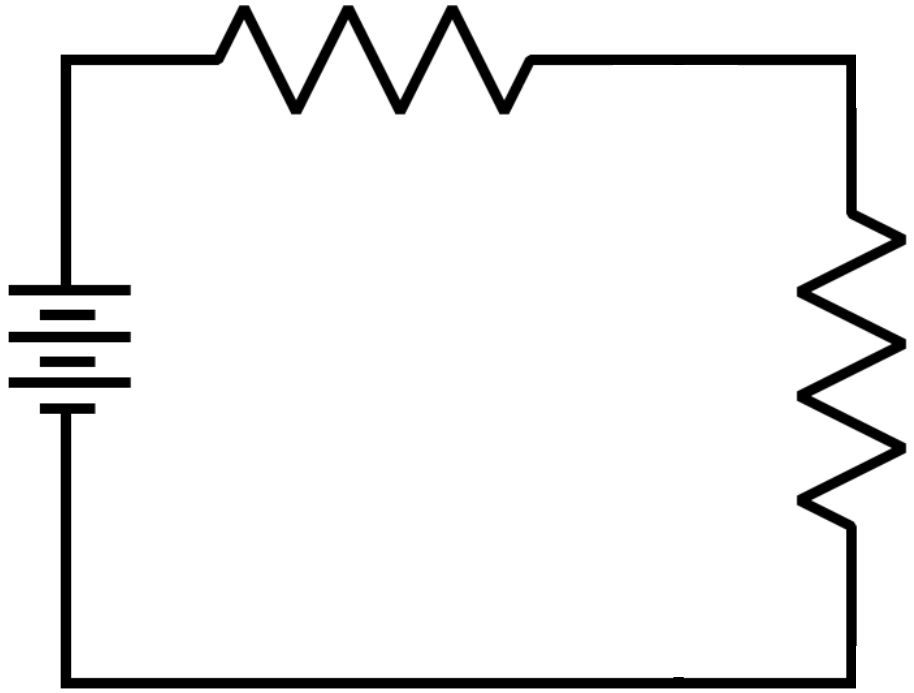
**Rule**

$P_1 =$

$E_1 =$

$I_1 =$

$R_1 =$ 4 Ohms



$P_T =$

$E_T =$ 12.6 Volts

$I_T =$

$R_T =$

$P_{2,3} =$

$E_{2.3} =$

$I_{2,3} =$

$R_{2,3} =$ 3.6 Ohms

$$R_{2,3} = \frac{R_2 \times R_3}{R_2 + R_3} \qquad R_{2,3} = \frac{6 \times 9}{6+9} \qquad R_{2,3} = \frac{54}{15} \qquad R_{2,3} = 3.6 \text{ Ohms}$$

**Math**

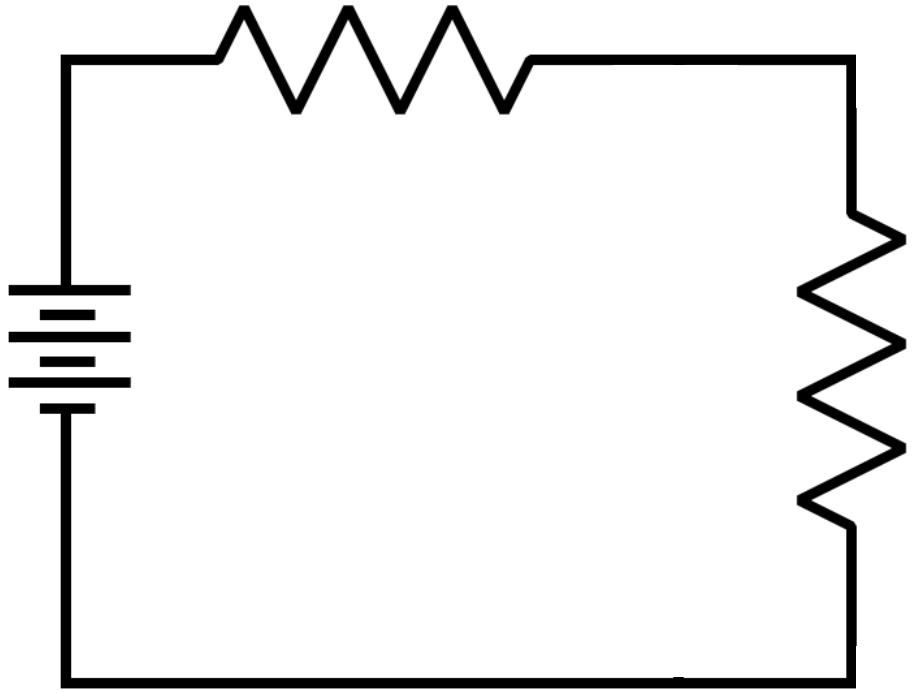
**Rule**

$P_1 =$

$E_1 =$

$I_1 =$

$R_1 =$ 4 Ohms



$P_T =$

$E_T =$ 12.6 Volts

$I_T =$

$R_T =$

$P_{2,3} =$

$E_{2.3} =$

$I_{2.3} =$

$R_{2,3} =$ 3.6 Ohms

$$R_{2,3} = \frac{R_2 \times R_3}{R_2 + R_3} \qquad R_{2,3} = \frac{6 \times 9}{6+9} \qquad R_{2,3} = \frac{54}{15} \qquad R_{2,3} = 3.6 \text{ Ohms}$$

$$R_T = R_1 + R_{2,3} = 4 + 3.6 = 7.6 \text{ Ohms}$$

# Math

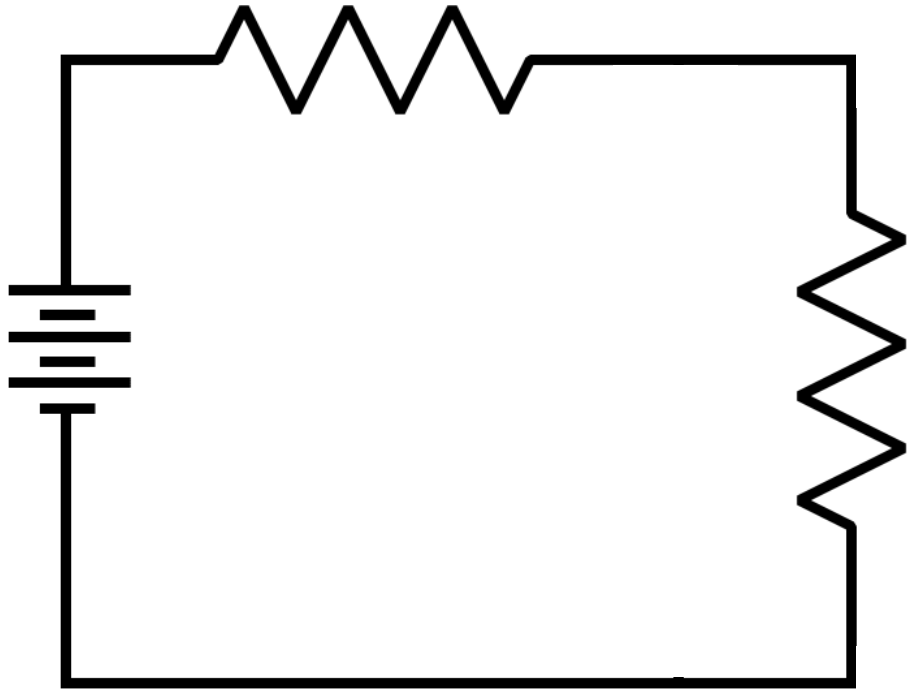
# Rule

$P_1 =$

$E_1 =$

$I_1 =$

$R_1 =$ 4 Ohms



$P_T =$

$E_T =$ 12.6 Volts

$I_T =$

$R_T =$ 7.6 Ohms

$P_{2,3} =$

$E_{2.3} =$

$I_{2,3} =$

$R_{2,3} =$ 3.6 Ohms

$$R_{2,3} = \frac{R_2 \times R_3}{R_2 + R_3} \qquad R_{2,3} = \frac{6 \times 9}{6+9} \qquad R_{2,3} = \frac{54}{15} \qquad R_{2,3} = 3.6 \text{ Ohms}$$

$$R_T = R_1 + R_{2,3} = 4 + 3.6 = 7.6 \text{ Ohms}$$

Math

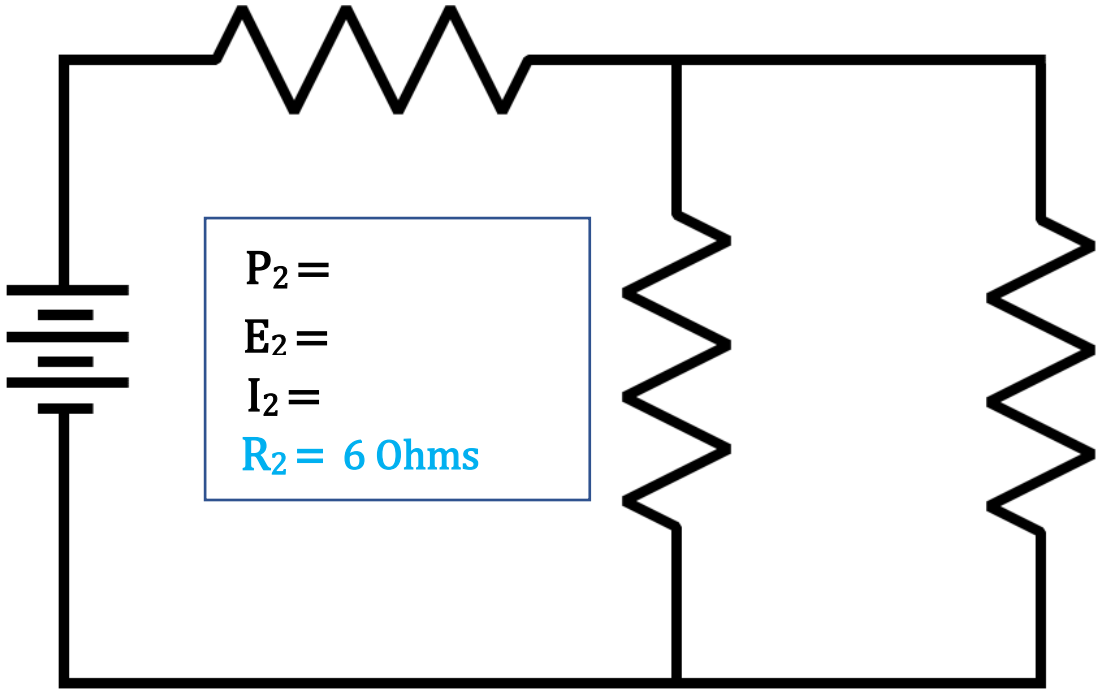
Rule

$P_1 =$
$E_1 =$
$I_1 =$
$R_1 =$ 4 Ohms

$P_T =$
$E_T =$ 12.6 Volts
$I_T =$
$R_T =$ 7.6 Ohms

$P_2 =$
$E_2 =$
$I_2 =$
$R_2 =$ 6 Ohms

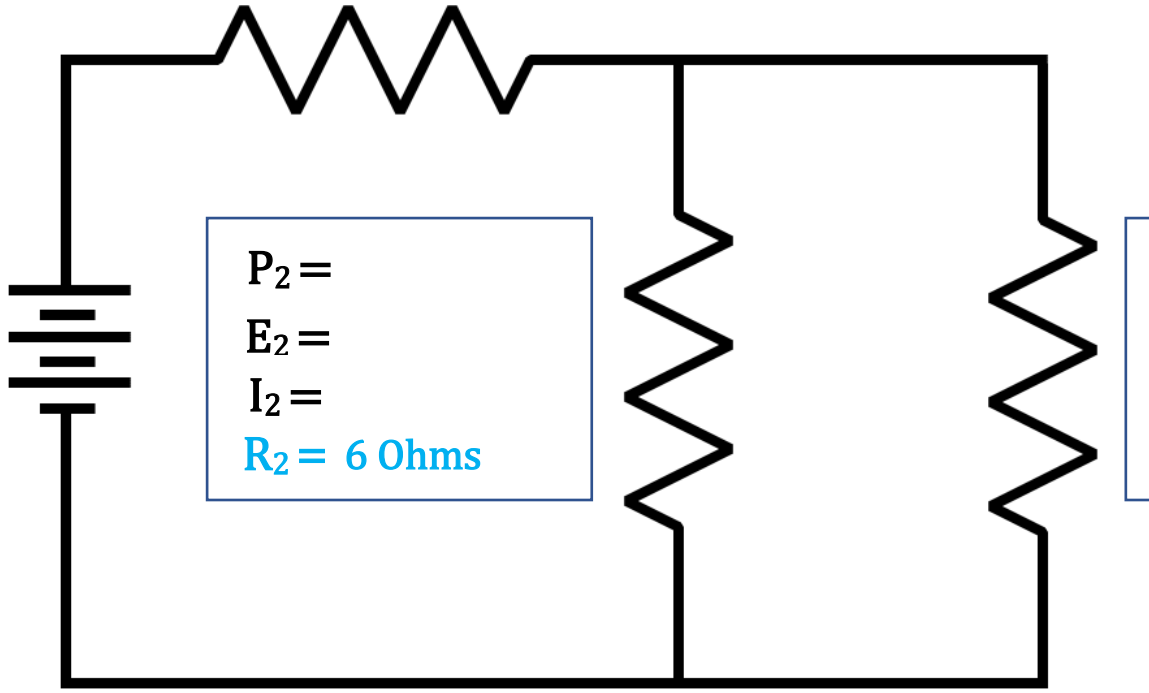
$P_3 =$
$E_3 =$
$I_3 =$
$R_3 =$ 9 Ohms



Math

Rule

$P_1 =$
$E_1 =$
$I_1 =$
$R_1 =$ 4 Ohms



$P_T =$20.92 Watts
$E_T =$ 12.6 Volts
$I_T =$ 1.66 Amps
$R_T =$ 7.6 Ohms

$P_2 =$
$E_2 =$
$I_2 =$
$R_2 =$ 6 Ohms

$P_3 =$
$E_3 =$
$I_3 =$
$R_3 =$ 9 Ohms

Math

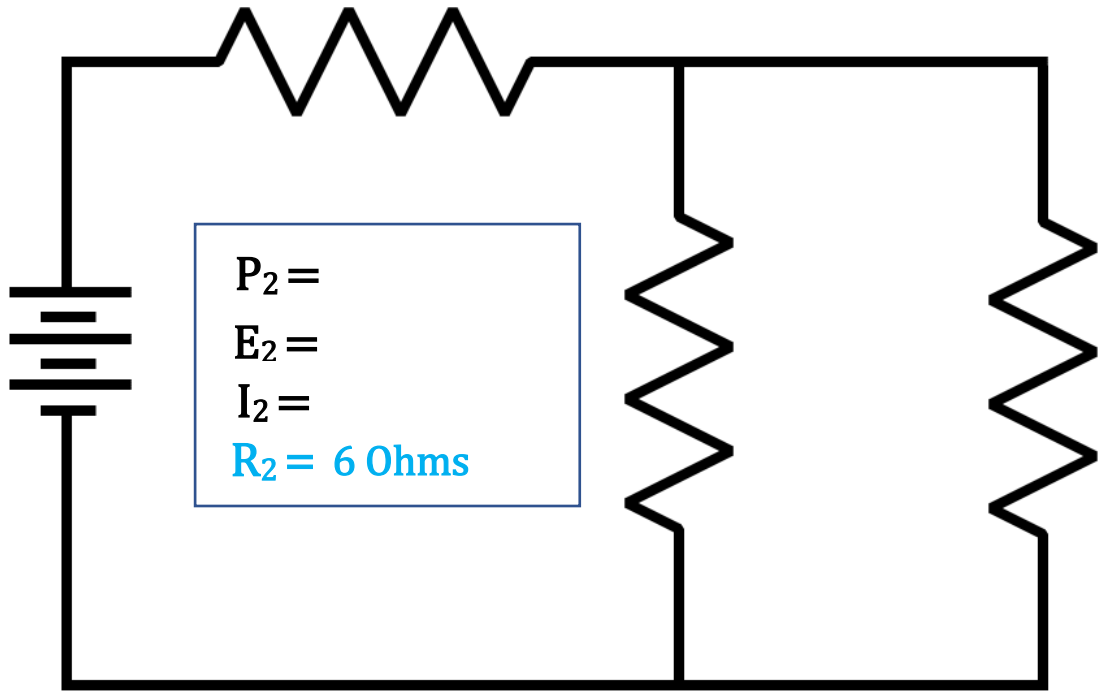
Rule

$P_1 =$

$E_1 =$

$I_1 = 1.66$ Amps

$R_1 = 4$ Ohms



$P_T = 20.92$ Watts

$E_T = 12.6$ Volts

$I_T = 1.66$ Amps

$R_T = 7.6$ Ohms

$P_2 =$

$E_2 =$

$I_2 =$

$R_2 = 6$ Ohms

$P_3 =$

$E_3 =$

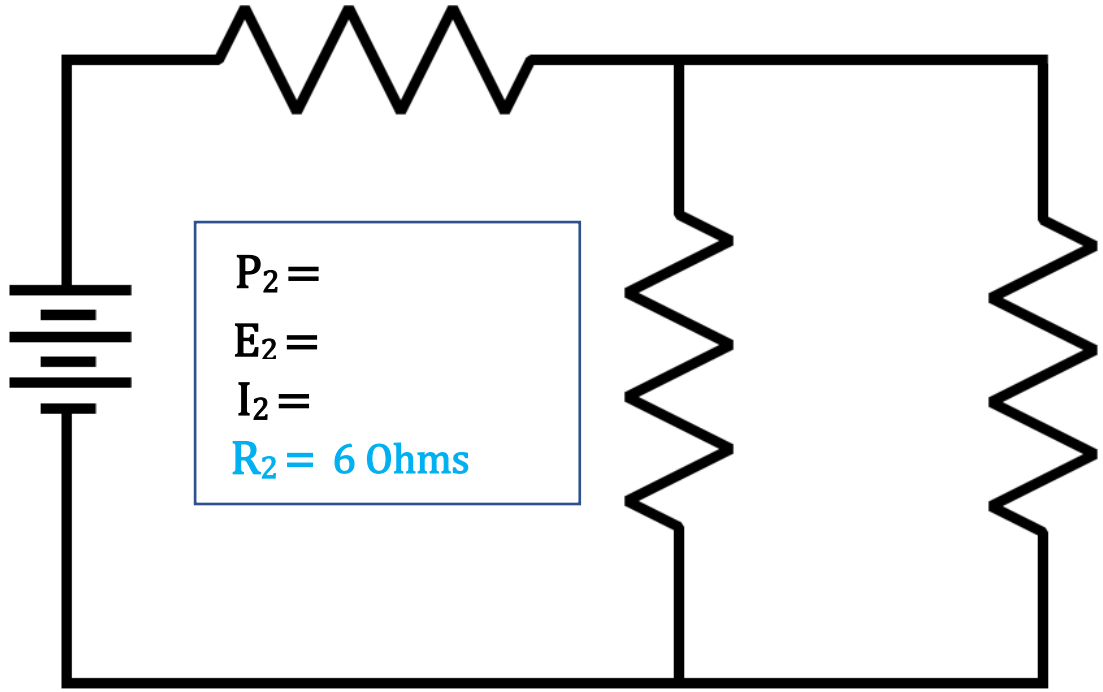
$I_3 =$

$R_3 = 9$ Ohms

Math

Rule

$P_1 = 11.02$ Watts
$E_1 = 6.64$ Volts
$I_1 = 1.66$ Amps
$R_1 = 4$ Ohms



$P_T = 20.92$ Watts
$E_T = 12.6$ Volts
$I_T = 1.66$ Amps
$R_T = 7.6$ Ohms

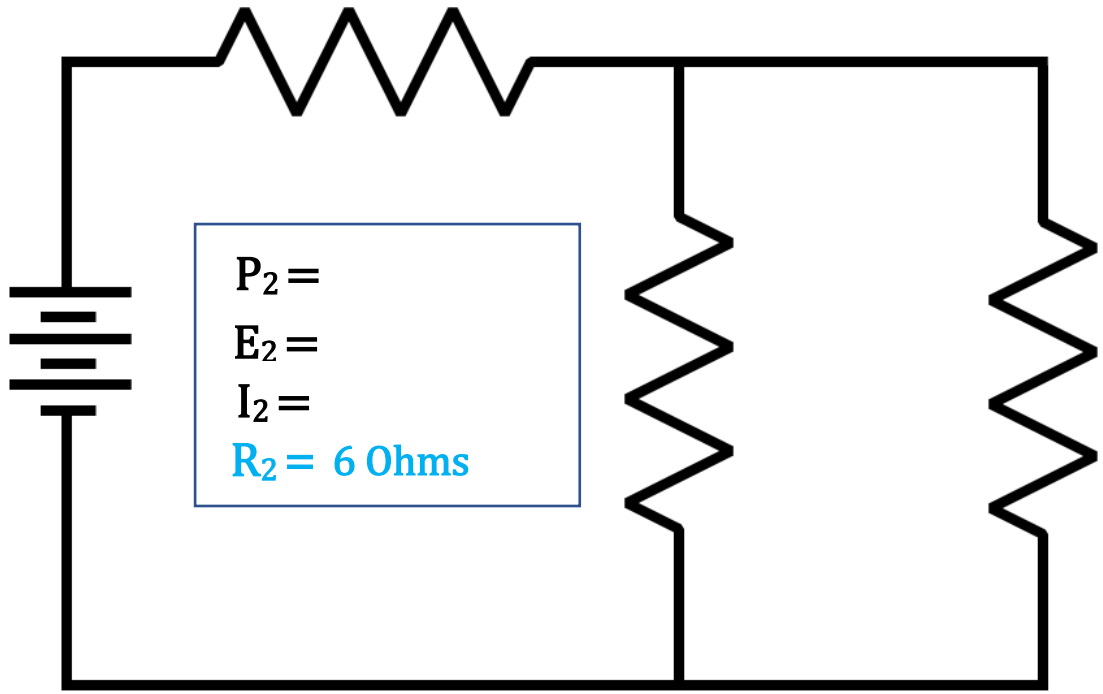
$P_2 =$
$E_2 =$
$I_2 =$
$R_2 = 6$ Ohms

$P_3 =$
$E_3 =$
$I_3 =$
$R_3 = 9$ Ohms

Math

Rule

$P_1 = 11.02$ Watts
$E_1 = 6.64$ Volts
$I_1 = 1.66$ Amps
$R_1 = 4$ Ohms



$P_T = 20.92$ Watts
$E_T = 12.6$ Volts
$I_T = 1.66$ Amps
$R_T = 7.6$ Ohms

$P_2 =$
$E_2 =$
$I_2 =$
$R_2 = 6$ Ohms

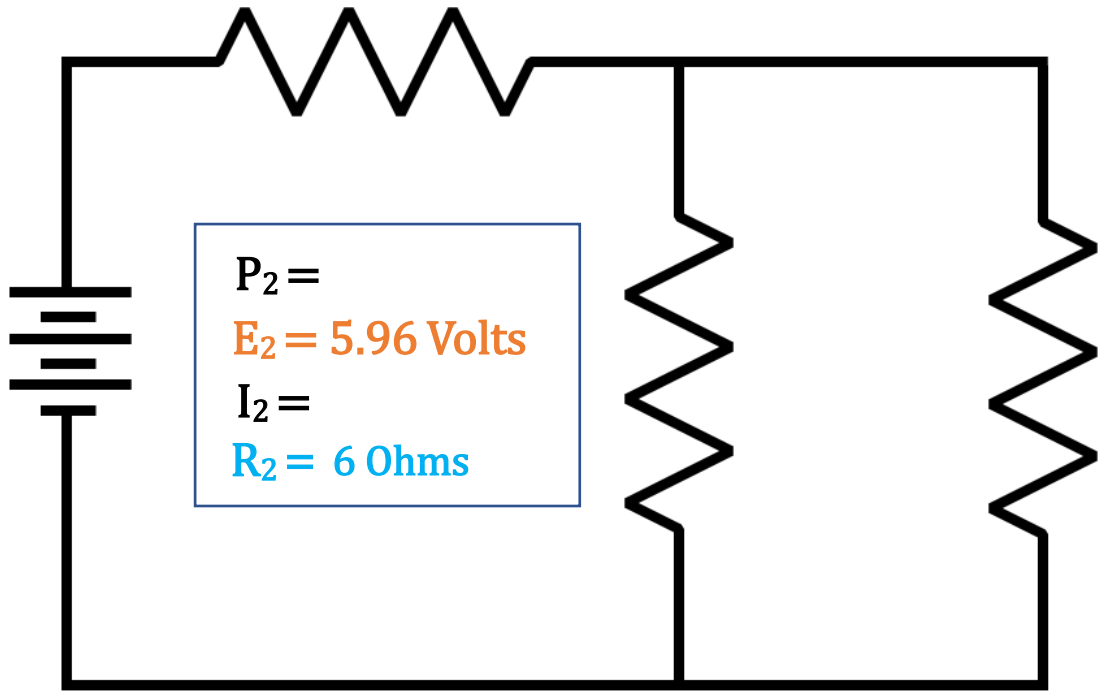
$P_3 =$
$E_3 =$
$I_3 =$
$R_3 = 9$ Ohms

$E_{2,3} = E_T - E_1 = 12.6 - 6.64 = 5.96$ Volts

Math

Rule

$P_1 = 11.02$ Watts
$E_1 = 6.64$ Volts
$I_1 = 1.66$ Amps
$R_1 = 4$ Ohms



$P_T = 20.92$ Watts
$E_T = 12.6$ Volts
$I_T = 1.66$ Amps
$R_T = 7.6$ Ohms

$P_2 =$
$E_2 = 5.96$ Volts
$I_2 =$
$R_2 = 6$ Ohms

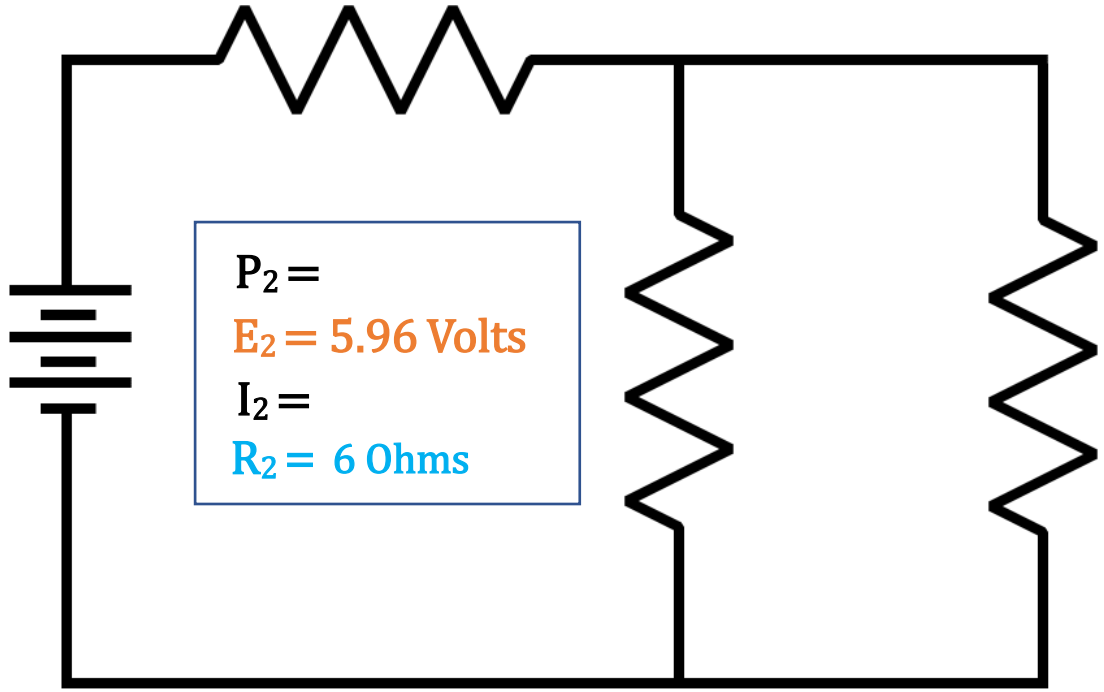
$P_3 =$
$E_3 = 5.96$ Volts
$I_3 =$
$R_3 = 9$ Ohms

$E_{2,3} = E_T - E_1 = 12.6 - 6.64 = 5.96$ Volts

Math

Rule

$P_1 = 11.02$ Watts
$E_1 = 6.64$ Volts
$I_1 = 1.66$ Amps
$R_1 = 4$ Ohms



$P_T = 20.92$ Watts
$E_T = 12.6$ Volts
$I_T = 1.66$ Amps
$R_T = 7.6$ Ohms

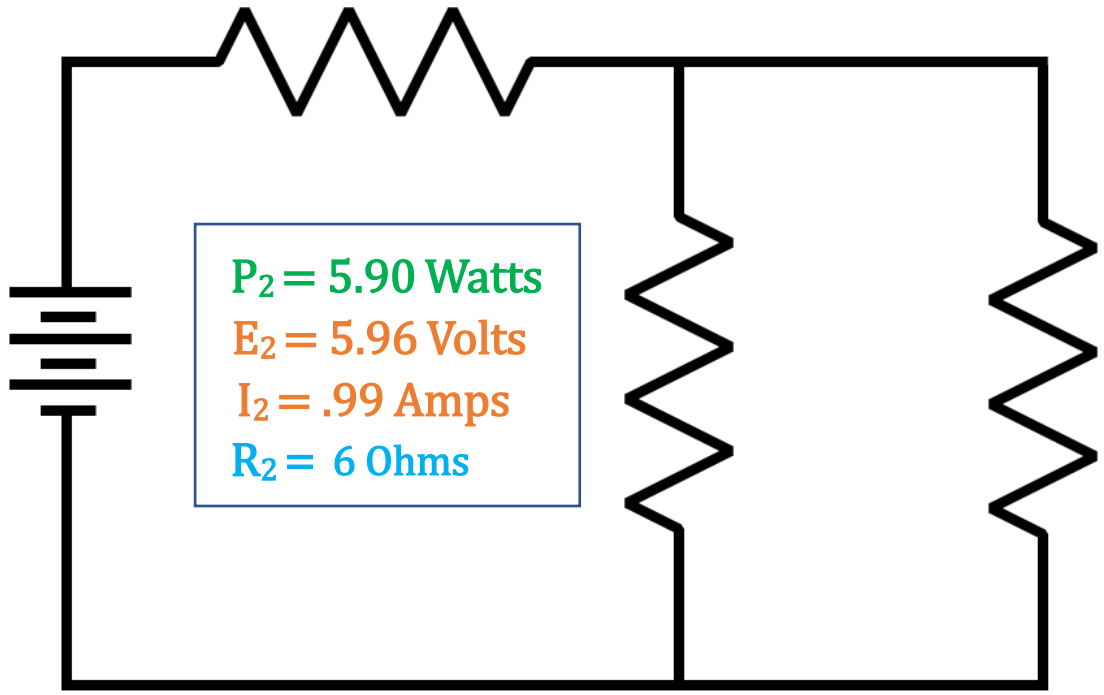
$P_2 =$
$E_2 = 5.96$ Volts
$I_2 =$
$R_2 = 6$ Ohms

$P_3 =$
$E_3 = 5.96$ Volts
$I_3 =$
$R_3 = 9$ Ohms

Math

Rule

$P_1 = 11.02$ Watts
$E_1 = 6.64$ Volts
$I_1 = 1.66$ Amps
$R_1 = 4$ Ohms



$P_T = 20.92$ Watts
$E_T = 12.6$ Volts
$I_T = 1.66$ Amps
$R_T = 7.6$ Ohms

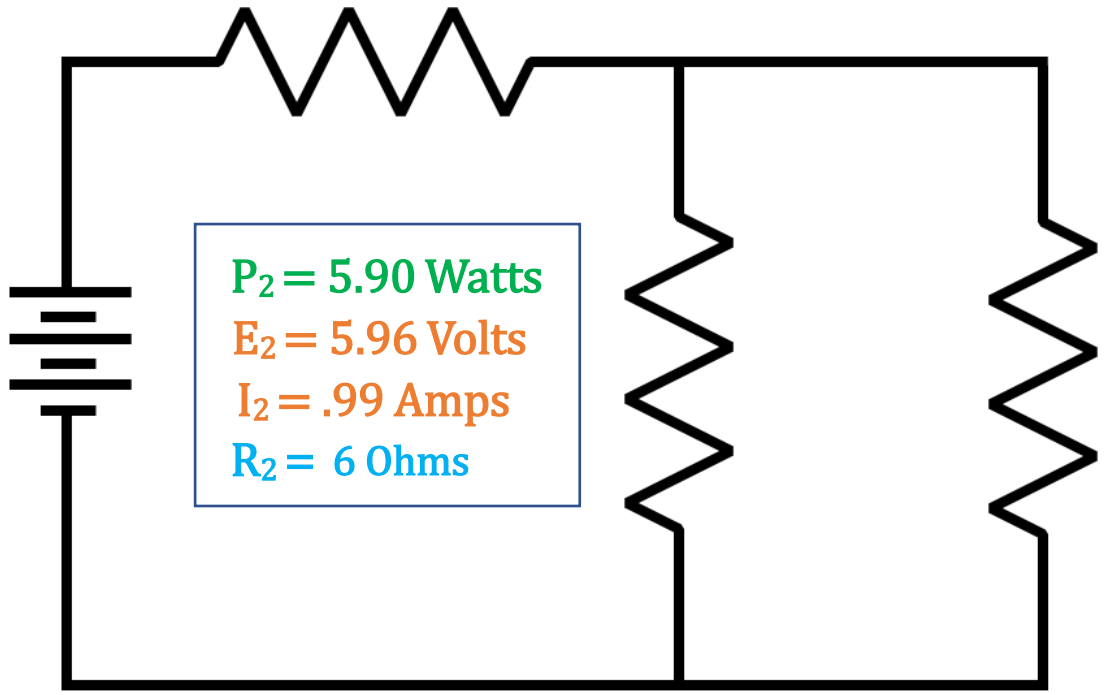
$P_2 = 5.90$ Watts
$E_2 = 5.96$ Volts
$I_2 = .99$ Amps
$R_2 = 6$ Ohms

$P_3 =$
$E_3 = 5.96$ Volts
$I_3 =$
$R_3 = 9$ Ohms

# Math

# Rule

$P_1 = 11.02$ Watts
$E_1 = 6.64$ Volts
$I_1 = 1.66$ Amps
$R_1 = 4$ Ohms



$P_T = 20.92$ Watts
$E_T = 12.6$ Volts
$I_T = 1.66$ Amps
$R_T = 7.6$ Ohms

$P_2 = 5.90$ Watts
$E_2 = 5.96$ Volts
$I_2 = .99$ Amps
$R_2 = 6$ Ohms

$P_3 = 3.93$ Watts
$E_3 = 5.96$ Volts
$I_3 = .66$ Amps
$R_3 = 9$ Ohms