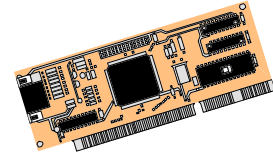




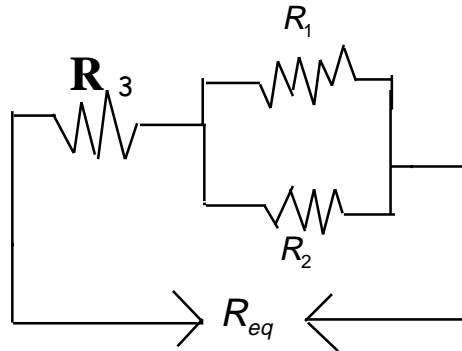
Math Study Strategies

Math for Electronics

Equivalent Resistance



Find R_{eq} when $R_1 = 200\Omega$, $R_2 = 1,000\Omega$, and $R_3 = 1,200\Omega$ Round to **three significant digits**.



We are looking for: R_e

Given information:

$$R_1 = 200\Omega$$

$$R_2 = 1,000\Omega$$

$$R_3 = 1,200\Omega$$

In a parallel circuit the equivalent resistance of the circuit is given by the formula:

$$R_{eq} = R_1 + \frac{R_2 R_3}{R_2 + R_3}$$

Substitute the given value for the variables (R_1, R_2, R_3) in the formula

$$R_{eq} = 200 + \frac{1000 \times 1200}{1000 + 1200} = 200 + \frac{1200000}{2200} = 200 + 545$$

Therefore the value of the equivalent resistance will be:

$$R_e = 745\Omega$$

Note:

The three digits counted from left to right, beginning with the non zero digit are **745**. Therefore, **745** has three significant digits.