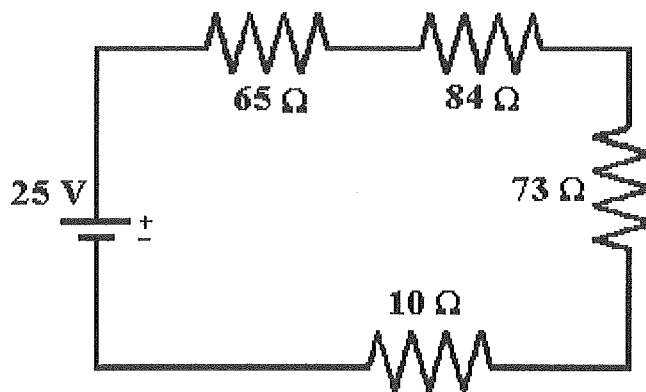


Physics 12
Section 19-1
Resistors in Series and Parallel

1. From Science 10 we have Ohm's Law $V = I \times R$.
2. To find the total resistance in a series circuit you add the individual resistors.

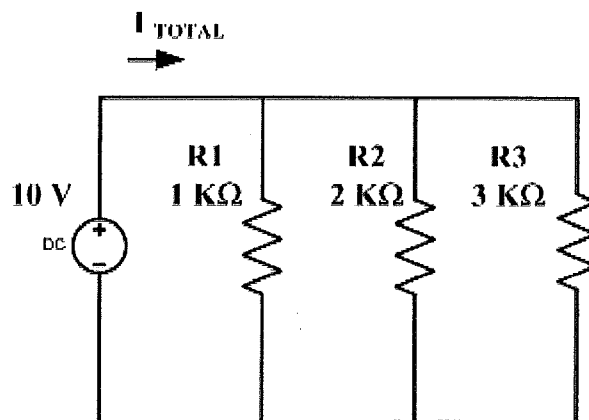


3. The total resistance in the above circuit is:

$$R_t = 65\Omega + 84\Omega + 73\Omega + 10\Omega = 232\Omega$$

4. The total resistance in parallel is calculated by the following:

$$1/R_t = 1/R_1 + 1/R_2 + 1/R_3 + \dots$$



$$1/R_{\text{t}} = 1/R_1 + 1/R_2 + 1/R_3$$

$$1/R_{\text{t}} = 1/1\Omega + 1/2\Omega + 1/3\Omega$$

$$1/R_{\text{t}} = 6/6 + 3/6 + 2/6$$

$$1/R_{\text{t}} = 11/6\Omega$$

$$6/11\Omega$$

Example 2: How much current flows from the battery shown in fig 19-6a?