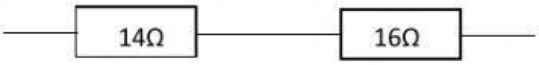
Adding Resistors in Series and Parallel

When we add resistors in series, we just add the resistances:

$$R_T = R_1 + R_2 + R_3 \ldots$$

Calculate the total resistance for these combinations.

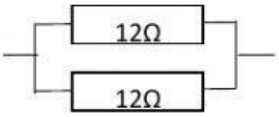


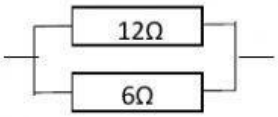
When we add resistors in parallel it is more complicated:

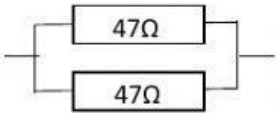
$$\frac{1}{R_T} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} \ldots$$

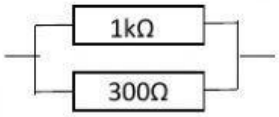
Helpful hint:

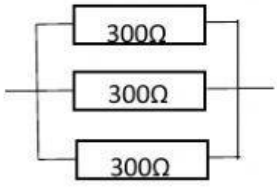
When you add resistors in parallel, the total resistance will decrease. Expect a smaller number.

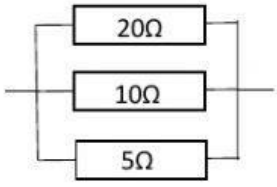


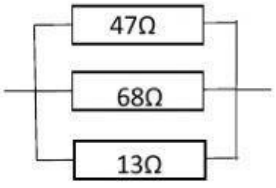


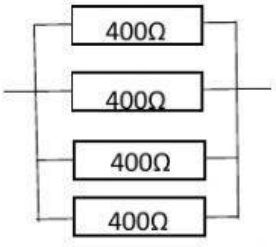












These can also come in combinations.

You will need to decide whether you need to do the parallel calculation first or the series calculation first.