PHYS 202 Combining Resistors Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

When resistors (*R1*, *R2*, *R3*) are connected in series the equivalent resistance (*Rs*) is given by,



When resistors (*R1*, *R2*, *R3*) are connected in parallel the equivalent resistance (*Rp*) is given by,



1. Give an explanation for the first equation above.

2. Two resistors with resistance values a and b are in parallel, show that the equivalent resistance is given by the following equation:

3. Find the equivalent [resistance](javascript:parent.xlinkeyword('u0028')) between points *A* and *B* for the resistor network shown below. What will be the current supplied by a 6.00-V battery when it is connected between A and B?

