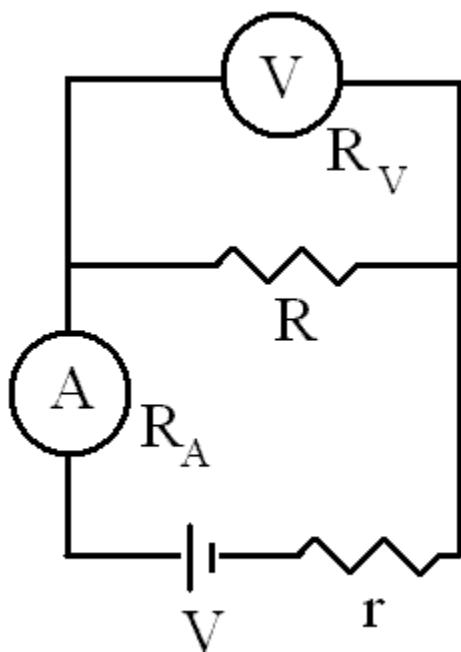


A voltmeter is designed to have a large resistance while an ammeter is designed to have a small resistance. This limits the effects of the meters on the measurements being made. However since both meters do have resistance it is impossible for them to not affect the measurements. In this activity you will examine the effect of the meters on the measurements being made.

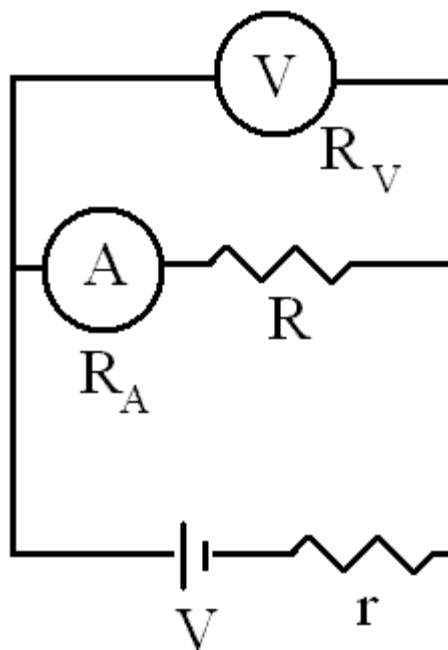
a) Below are two methods of attaching meters to a resistor to measure the voltage across the resistor and the current through the resistor. For each case derive an equation for R_{calc} , the resistance that would be calculated using the measured voltage and current, using only the given variables.

b) Which method would be most accurate if R is close to the value of R_A ? Justify your answer.

c) Which method would be most accurate if R is close to the value of R_V ? Justify your answer.



Method A



Method B