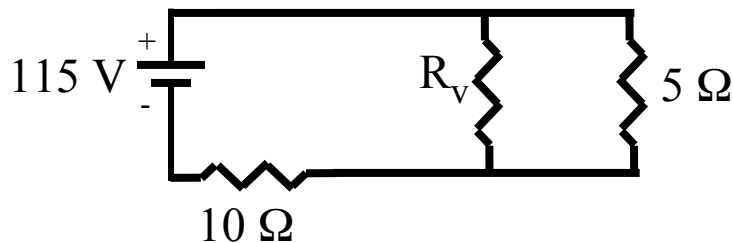


March 8, 2013

Graded Group Problem #2

While trying to find the power ratings of your appliances you find their circuit diagrams. Looking them over, your friend believes there must be a typo in the circuit diagram of your toaster. The heating element that toasts the bread is listed as having a resistance of 5 ohms. A variable resistor, (R_v) which is changed by a knob on front of the toaster, has a range of from 2 to 20 ohms. Your friend feels that an element with this resistance will not toast bread properly. Based on the circuit diagram, given below, you decide to calculate the maximum power output by the heating element. You also note that your toaster is connected to a circuit breaker that limits your current to just under 15 Amps.



NOTE:

Use a *Group Problem Solving Guide* to answer this problem.

Clearly indicate your names as well as your lab time.