

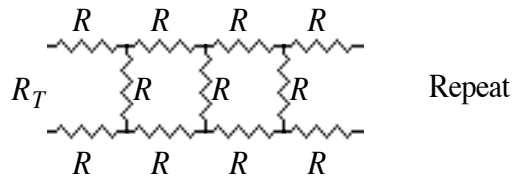
Physics 4700 HOMEWORK 1  
Due Jan 26

- 1) Simpson P47 problem 4.
- 2) Simpson P47 problem 11.
- 3) Simpson P48 problem 14.
- 4) Simpson P49 problem 17.
- 5) Simpson P50 problem 28.
- 6) Simpson P50 problem 30.
- 7) Simpson P52 problem 42. What's the largest value  $R$  can be if we want the voltmeter to always be within 10% of the correct voltage?

**Additional problems (10 points each):**

- 8) Show that the resistance of this infinite network of resistors is:

$$R_T = (1 + \sqrt{3})R \text{ with } R_T \text{ the resistance looking into the network.}$$



- 9) Find the current going through each resistor and the voltage drop across each resistor. The resistor values are in Ohms.

