

Physics 122: Practice Problem of the Day

Problem #05: A Circuit with a Switch

Friday, 23 Jan 2008

The circuit below includes three voltage sources with three different given values V_1 , V_2 , and V_3 and four different given resistor values R_a , R_b , R_c , and R_d .

Part (a) – In the configuration shown below, with the switch open, determine the currents I_a , I_b , I_c , and I_d through each of the four resistors in terms of the given parameters. Explain your work.

Part (b) – Suppose we close the switch. Now determine the new values of the currents \mathcal{I}_a , \mathcal{I}_b , \mathcal{I}_c , and \mathcal{I}_d through each of the four resistors in terms of the given parameters. Explain your work.

