

Physics 321: HW 2

1. Do problem 2.1 in Sprott. Don't try to solve the equations, just write down a set of equations that is sufficient to solve the problem.

Now redraw the circuit as two Thevenin equivalent circuits connected by R_3 . Do this by drawing dotted circles, one around V_1 , R_1 and R_2 , and the other containing V_2 , R_5 and R_4 . Replace the circuits inside the dotted circles with their Thevenin equivalents, using the component values given in problem 2.5. Be sure to include the signs on the voltage sources. With this, you can solve for I_3 using simple reduction and a single loop. (Watch the signs on the voltage sources!)

Then do problems 2.6, 2.8, 2.9, and 2.11 in Sprott.