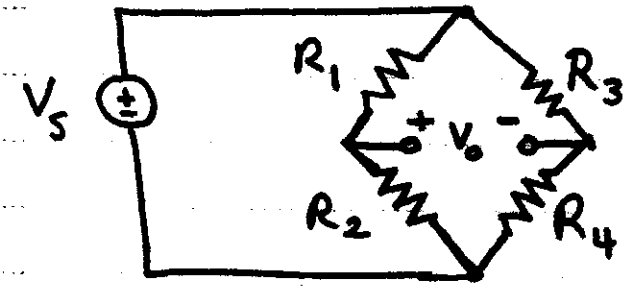
HW Set 2 : Problems 2.4, 2.5, 2.6

4. The circuit shown below is called a bridge circuit.



(a) Use the voltage clivider relationship to find V_o.

(b) Find R_4 in terms of R_1, R_2 and R_3 so that $V_o = 0$.

5. You have a large number of the following practical resistors available: 4.7 Ω, 100 Ω, 220 Ω, 1 kΩ, 2.2 kΩ, 4.7 kΩ, and 10 kΩ. Construct the following resistances using series and parallel combinations of the available resistors:

(a) 50 Ω
(b) 114.7 Ω
(c) 5.5 kΩ
(d) 0.47 Ω
(e) 24.55 kΩ

6. If each resistor you used in Problem 5 has ±10% tolerance, determine the minimum and maximum values that your resistor combinations in parts (a)-(e) can have.