

P5.21 In the circuit below $R_1 = 100\ \Omega$, $R_2 = 1000\ \Omega$, $R_3 = 99\ \Omega$, $R_4 = 1000\ \Omega$, $R_5 = 10\ \Omega$ and $V = 10\ \text{V}$. (a) Relying on the Thevenin theorem, find the equivalent voltage and equivalent resistance for the circuit below when the resistor R_5 is taken out. (b) What is the current through R_5 when it is put back into the circuit? (c) If $R_5 = 10\ \text{k}\Omega$ were put in instead of $10\ \Omega$, what would be the current through it? (d) Calculate the voltage across R_5 for the conditions in (b) and (c), respectively.

