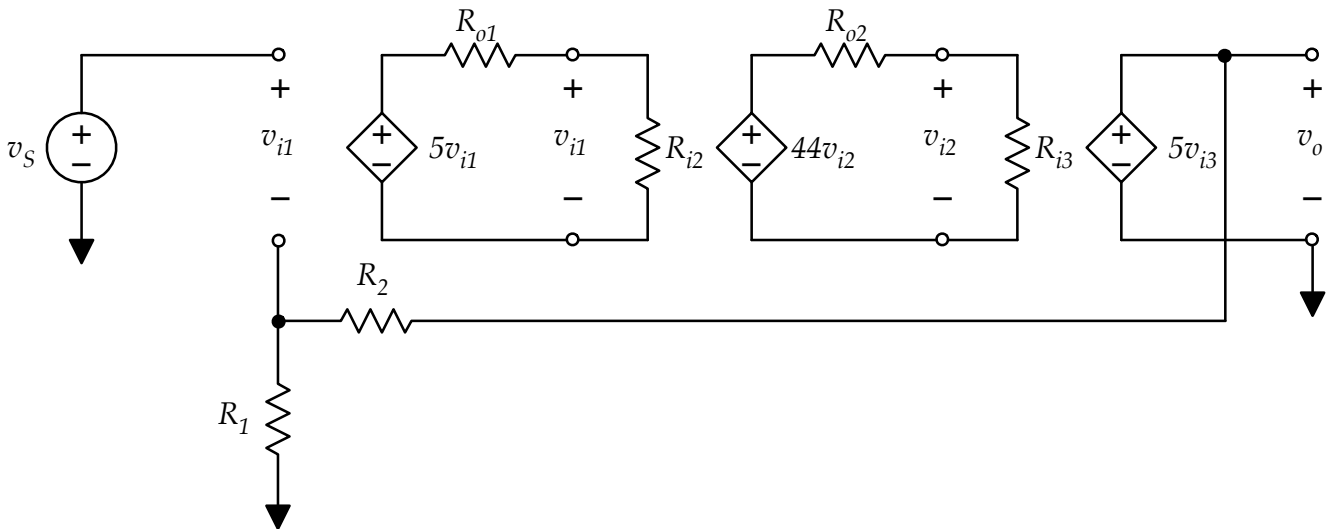An amplifier circuit consists of three cascaded open-loop amps with feedback loop around the whole thing, as shown below. In the circuit, $R_{o1} = R_{o2} = 1\text{k}\Omega$, $R_{i2} = 1\text{k}\Omega$, $R_{i3} = 10 \text{ k}\Omega$. The gain of each amp is given below in the circuit. (Note that $R_{i1} \rightarrow \infty$ and $R_{o3} = 0$.)

Determine the ratio of the feedback resistors so that the closed-loop gain of this cascaded arrangement will be 25.

Hint: You can simplify the cascaded collection amps, reducing the string to something simpler

$R_2/R_1 = $ _____.