Problem 1

- Make a Thevenin equivalent out of $V_s$, $R_s$ and $R_2$.
- Using the Thevenin equivalent circuit, show that

$$\frac{V_o}{V_m} = -\frac{R_F}{R_S}$$

Problem 2

9) Use Thevenin equivalents to find an equivalent circuit and find $V_{TH} + R_{TH}$.
Problem 2 continued

b) Use source transformation techniques to find the equivalent circuit.

\[ \text{Find } I \text{ and } R \]

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Problem 3

\[ \begin{array}{c}
\text{1k} \\
\text{1k} \\
\text{1k} \\
\end{array} \]

\[ \begin{array}{c}
\text{3V} \\
\text{1mA} \\
\text{+} \\
\text{RL} \\
\end{array} \]

a) Specify a numerical value for \( RL \) so that \( RL \) absorbs the maximum amount of power available.

b) Find the max power absorbed by \( RL \).
a) Using nodal analysis write 4 equations that could be solved for $V_1$, $V_2$, $V_3$, and $V_4$

b) Use an equation solver to solve the equations for $V_1$, $V_2$, $V_3$, and $V_4$

c) Use pSpice to verify your result.