1. **Equivalence** Find the Thévenin and Norton equivalents across terminals $a$ and $b$ for the circuits given below.

![Circuit (a)](image1.png)

2. **Wheatstone Bridge** Let us revisit our favorite circuit, the wheatstone bridge. Thévenin equivalence is an alternate technique we can use to solve the bridge circuit. For the circuit below, $R_1 = 4k\Omega$, $R_2 = 1k\Omega$, $R_3 = 3k\Omega$, $R_4 = 1k\Omega$, and $R_5 = 4k\Omega$. 

![Circuit (b)](image2.png)
(a) First, let’s for a moment remove the bridge resistor. Calculate the Thévenin equivalence between the two terminals of the resistor $v_2$ and $v_3$.

(b) With this equivalent circuit, calculate the current through the bridge resistor.

3. Superposition Practice

For the following circuits, use the superposition theorem to solve for the node potential $V_1$.

(a)
\[ \begin{align*}
V_S & \quad R_1 \quad \ldots \quad R_3 \quad \ldots \quad R_2 \quad I_S \\
\end{align*} \]