2-53 Use circuit reduction to find \( v_x \) in Figure P2-53.

![Figure P2-53](image)

2-58 The current through \( R_L \) in Figure P2-58 is 40 mA. Use source transformations to find \( R_L \).

![Figure P2-58](image)

2-62 Center Tapped Voltage Divider

Figure P2-62 shows a voltage divider with the center tap connected to ground. Derive equations relating \( v_A \) and \( v_B \) to \( v_S \), \( R_1 \), and \( R_2 \).

![Figure P2-62](image)
3–2 (a) Formulate node-voltage equations for the circuit in Figure P3–2.
   (b) Use these equations to find \( v_x \) and \( i_x \).

3–5 (a) Formulate node-voltage equations for the circuit in Figure P3–5.
   (b) Solve for \( v_x \) and \( i_x \) when \( R_1 = R_2 = R_3 = R_4 = 10 \, \text{k}\Omega \), \( v_s = 20 \, \text{V} \), and \( i_s = 2 \, \text{mA} \).
3–37 Find the Thévenin equivalent circuit seen by $R_L$ in Figure P3–37. Find the voltage across the load when $R_L = 5 \, \Omega$, $10 \, \Omega$, and $50 \, \Omega$.

![Figure P3–37](image)

3–41 The purpose of this problem is to use Thévenin equivalent circuits to find the voltage $v_X$ in Figure P3–41. Find the Thévenin equivalent circuit seen looking to the left of terminals A and B. Find the Thévenin equivalent circuit seen looking to the right of terminals A and B. Connect these equivalent circuits together and find the voltage $v_X$.

![Figure P3–41](image)