Note: **Be very clear about the directions of current and polarity of voltages.**

**Text Problems:**
3.1 – Rework using mesh analysis and also find the voltage across the 4 Ω resistor and the current through each voltage source.
3.20 - Rework using mesh analysis and also find the current through the voltage sources, and voltage across and current through the 2 Ω resistor.
3.7 – Rework using mesh analysis and also find the current through both resistors and the current through the dependent source.
3.51 – also find the current through the voltage sources, voltage across the current source and voltage across the 2 Ω resistor.
3.61 - also find the current through the voltage source, voltage across the current source.
3.57 -
3.2 – Rework using mesh analysis and also find the voltage across and current through the 2 Ω resistor and the voltage across each current source.
3.49 - also find the current through the voltage source, current through and voltage across the 3 Ω resistor.

**Other Problem:**

*Problem 1*

**Given:**
\[ R_1 = 10 \, \Omega, \quad R_2 = 20 \, \Omega, \quad R_3 = 15 \, \Omega \]
\[ R_4 = 25 \, \Omega, \quad R_5 = 5 \, \Omega \]
\[ V_{s1} = 5 \, V, \quad V_{s2} = 10 \, V, \quad I_S = 2A \]

**Find:**
- All the mesh currents,
- The voltage across \( R_1 \)
- The current \( R_4 \)
- The voltage across \( R_5 \)
- The current through \( V_{s1} \)
- The current through \( V_{s2} \)
- The voltage across \( I_S \)