PASSIVE SIGN CONVENTION, POWER DELIVERED BY, POWER ABSORBED BY TWO TERMINAL CIRCUIT ELEMENTS AND TELLEGEN’S THEOREM

Example:
- **B**: NOT Passive Sign Conv.
  Power Delivered by B = 15 X 4 = 60 W
- **C**: Passive Sign Conv.
  Power Absorbed by C = 10 X 2 = 20 W
- **D**: Passive Sign Conv.
  Power Absorbed by D = 25 X 0.2 = 5 W
- **F**: Passive Sign Conv.
  Power Absorbed by F = 25 X -0.4 = -10 W. Therefore F Delivers +10 W to the circuit

TELLEGEN'S THEOREM FOR A CIRCUIT COMPOSED OF TWO TERMINAL ELEMENTS
Conservation of Power

\[ KVL + KCL \rightarrow \sum_{all\ e} v_e i_e = 0 \]

Sum is over all circuit elements This is Conservation of Power