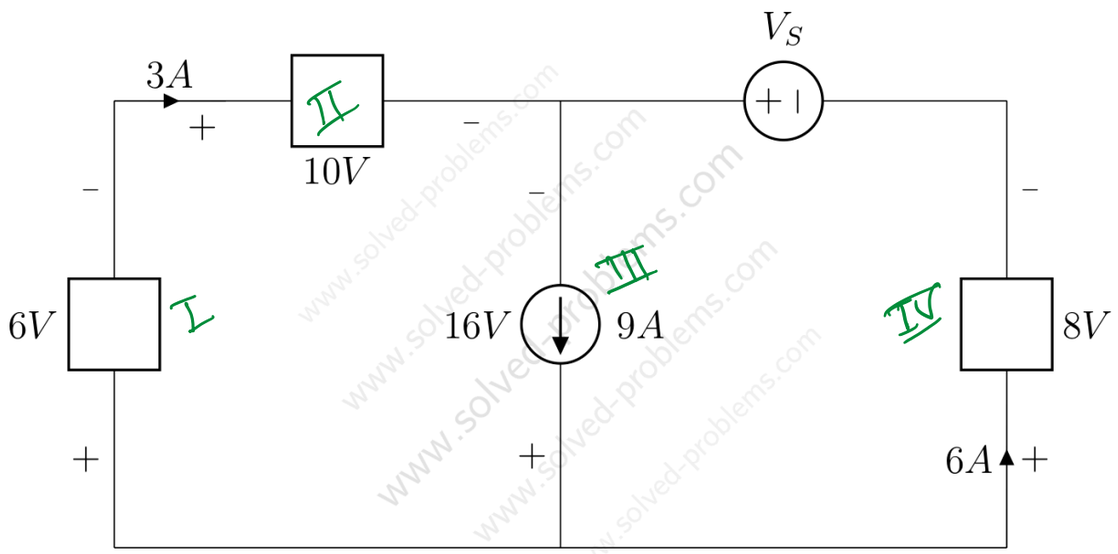
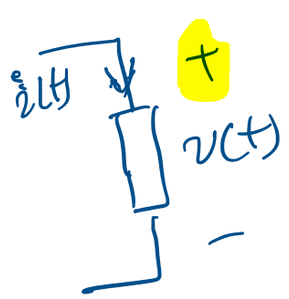
Is the source V_s absorbing or supplying power, and how much?



Positive sign convention

$p > 0 \longrightarrow$ Absorbing power

$p < 0 \longrightarrow$ Supplying power



① $P_I = 3A \times 6V = 18W > 0$ Absorbing

② $P_{II} = 3A \times 10V = 30W > 0$ Absorbing

③ $P_{III} = -9A \times 16V = -144W < 0$ supplying

④ $P_{IV} = 6A \times 8V = 48W > 0$ Absorbing

Absorbing : $18W + 30W + 48W = 96W$

Supplying : $144W$

P_{VS} : $144 - 96 = 48$ absorbing

$P_I + P_{II} + P_{III} + P_{IV} + P_{VS} = 0 \longrightarrow$ $P_{VS} = 48W > 0$ Absorbing

$P_{VS} = -6A \times V_S = 48W \longrightarrow V_S = \frac{48W}{-6A} = -8V$