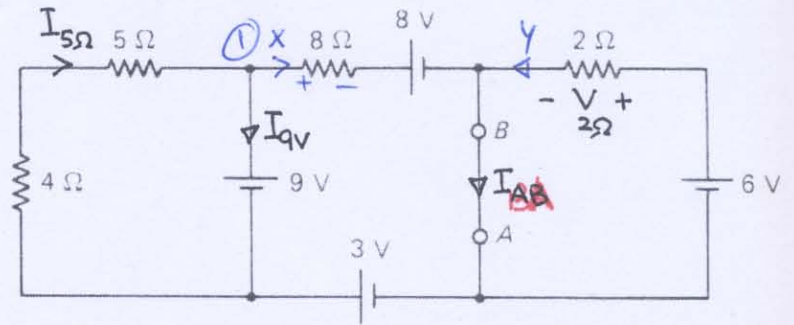


For the circuit shown, find
 $I_{5\Omega}$, $P_{8\Omega}$, $V_{2\Omega}$, I_{AB} , and I_{9V}



$$I_{5\Omega} = -\frac{9}{9} = -1A \quad \leftarrow$$

$$-6 + V_{2\Omega} = 0 \Rightarrow V_{2\Omega} = 6 \text{ Volt} \quad \leftarrow$$

KVL \downarrow middle mesh

$$-9 + 8X + 8 - 3 = 0 \Rightarrow 8X = 4 \Rightarrow X = \frac{1}{2}A$$

$$P_{8\Omega} = 8X^2 = 8\left(\frac{1}{2}\right)^2 = +2 \text{ Watt} \quad \leftarrow$$

$$Y = \frac{V_{2\Omega}}{2} = 3A$$

$$I_{AB} = X + Y = \frac{1}{2} + 2 = 2.5A \quad \leftarrow$$

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$$I_{5\Omega} = X + I_{9V} \Rightarrow I_{9V} = I_{5\Omega} - X$$

$$\therefore I_{9V} = -1 - \frac{1}{2} = -1.5A$$

$$I_{5\Omega} = -1A, \quad P_{8\Omega} = 2W, \quad V_{2\Omega} = 6V$$

$$I_{AB} = 2.5A, \quad I_{9V} = -1.5A$$