

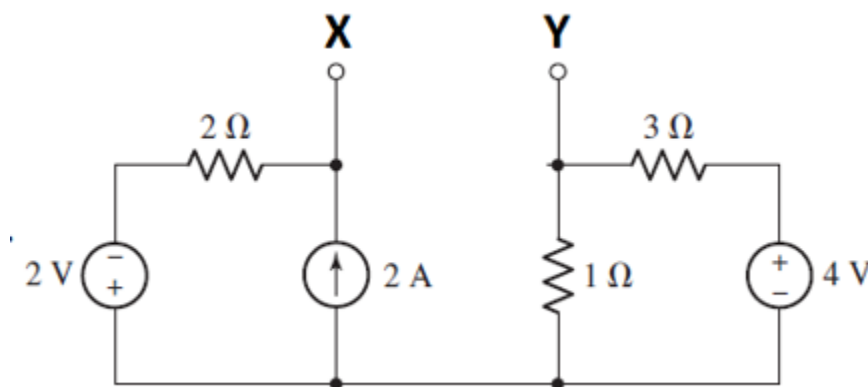
Unit I: Assessment: Q & A (Selected)

Lecture 15

1. In the given network, between the terminals X & Y, Determine

i) Thevenin's Voltage (V_{TH})

ii) Thevenin's Resistance (R_{TH})



Solution:

Finding V_{TH} :

$$V_{XY} = V_X - V_Y = V_{TH}$$

$$V_X = 2A \cdot 2\Omega - 2V = 2V$$

$$V_Y = 4V \cdot \frac{1\Omega}{(1\Omega + 3\Omega)} = 1V$$

$$\text{Hence, } V_{TH} = 1V$$

Finding R_{TH} :

Replace voltage sources with short circuit and current sources with open circuit.

$$R_{TH} = 2\Omega + \frac{1\Omega \cdot 3\Omega}{(1\Omega + 3\Omega)} = 2.75\Omega$$

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