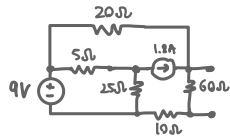


Thevenin & Norton 등가회로 : 일의의 회로를 전압원과 저항의 직렬 연결 또는 전류원과 저항의 병렬 연결으로 나타낸 회로.

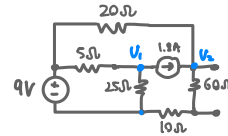
Thevenin :  , Norton :  . 이때,  $R_{Th} = R_{No}$  이고  $V_{Th} = I_{No} R_{Th}$  가 성립.

- Thevenin 문제



$\langle V_{Th} \rangle$

Node Voltage Method

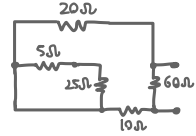


$$\frac{V_1 - 9}{5} + \frac{V_2}{25} - 1.8 = 0$$

$$\rightarrow V_2 = 35V$$

$$V_{Th} = V_{60\Omega} = V_2 \times \frac{60}{60+10} = 30V$$

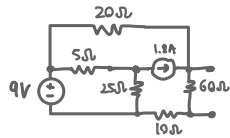
$\langle R_{Th} \rangle$



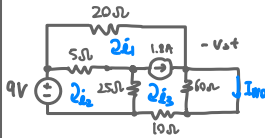
$$R_{Th} = 5 + (25 + 60 \parallel 10) = 5 + 20 = 25\Omega$$

$$= 5 + 20 = 25\Omega$$

- Norton 문제



$\langle I_{No} \rangle$



$$25i_1 + 95i_2 = 5i_2 + 25i_3 + 60I_{No}$$

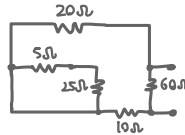
$$i_3 - i_1 = 1.8$$

$$30i_2 = 5i_1 + 25i_3 + 9$$

$$I_{No} = i_3$$

$$\Rightarrow I_{No} = 1.5A$$

$\langle R_{No} \rangle$



$$R_{No} = 5 + (25 + 60 \parallel 10) = 5 + 20 = 25\Omega$$

$$= 5 + 20 = 25\Omega$$