

Find the value of  $R_L$  such that the power received by  $R_L$  is maximized.

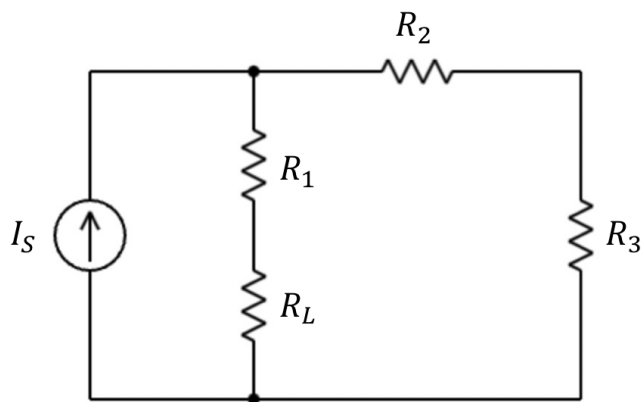
Find the corresponding max power received by  $R_L$ .

$$I_S = 2A$$

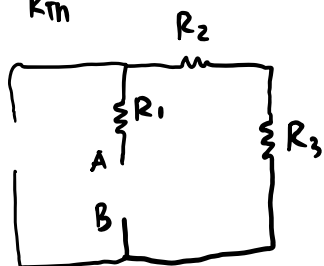
$$R_1 = 12\Omega$$

$$R_2 = 2\Omega$$

$$R_3 = 2\Omega$$



find  $R_{Th}$



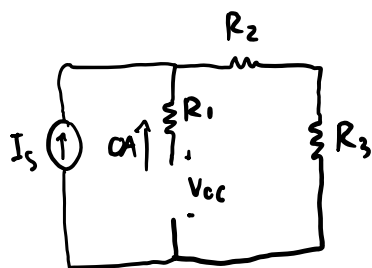
$R_1, R_2, R_3$  are in series

$$R_{Th} = R_1 + R_2 + R_3$$

$$= 12 + 2 + 2$$

$$R_{Th} = 16\Omega$$

find  $V_{Th}$



$$V_{OC} = I_S \cdot (R_2 + R_3)$$

$$= 2 \cdot (2 + 2)$$

$$V_{OC} = 8V$$

$$P_{max} = \frac{V_{Th}^2}{4R_{Th}}$$

$$= \frac{8^2}{4(16)}$$

$$P_{max} = 1W$$