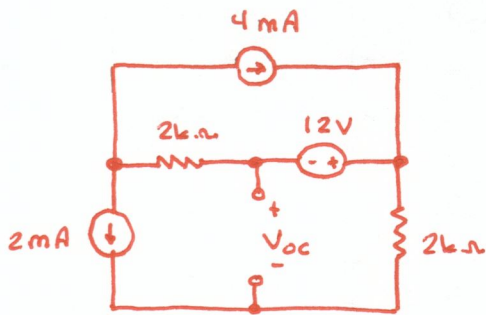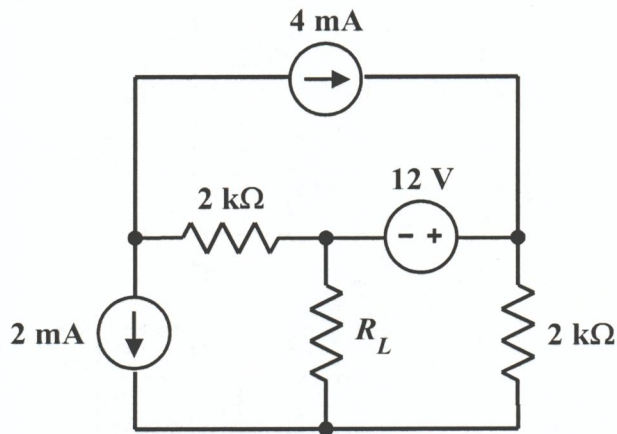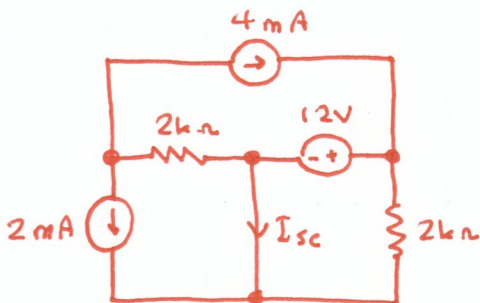# Problem #01

What value should be chosen for R_L so that it will absorb maximum power from the rest of the circuit?

4 mA

12 V

2 kΩ

2 mA

R_L

2 kΩ

$$V_{oc} = -12V - (2mA)(2k\Omega)$$
$$= -16V$$

$$I_{sc} = -2mA - \frac{12V}{2k\Omega}$$
$$= -8mA$$

For maximum power transfer, choose

$$R_L = R_T = R_N = \frac{V_{oc}}{I_{sc}} = \frac{-16V}{-8mA} = 2k\Omega$$