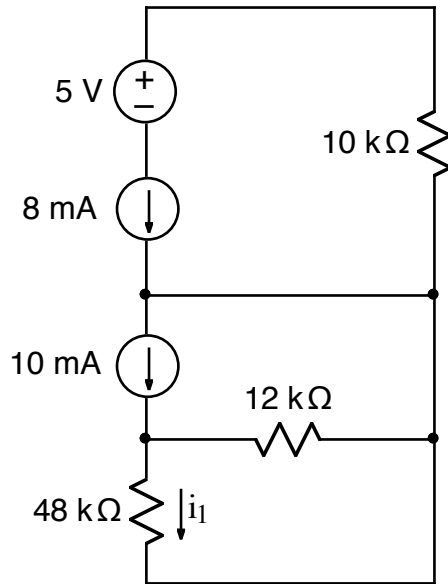


Ex:



Calculate i_1 .

SOL'N:

We observe that the $12\text{k}\Omega$ and $48\text{k}\Omega$ resistors are in parallel, and the 10mA from the lower current source must all flow thru the $12\text{k}\Omega$ and $48\text{k}\Omega$ resistors (and up the wire on the right).

Thus, we have current divider:

$$i_1 = 10\text{mA} \cdot \frac{12\text{k}\Omega}{12\text{k}\Omega + 48\text{k}\Omega}$$

$$i_1 = 10\text{mA} \cdot \frac{1}{5} = 2\text{mA}$$

Note: The $12\text{k}\Omega$ resistor is $1/4$ as big as the $48\text{k}\Omega$ resistor so it carries 4 times the current.