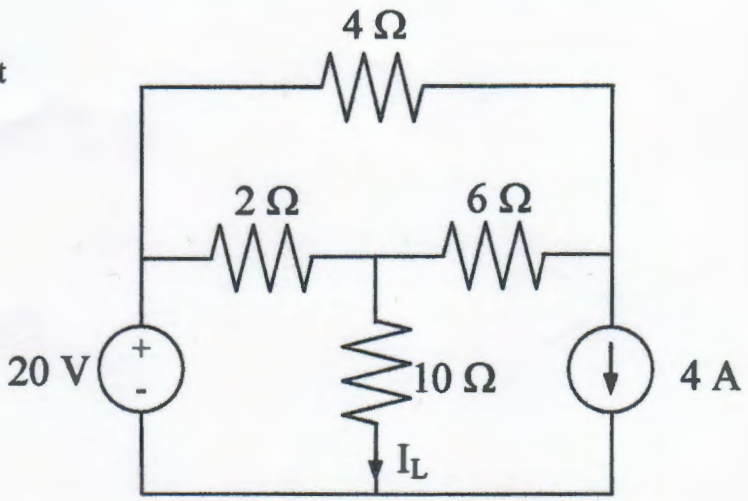
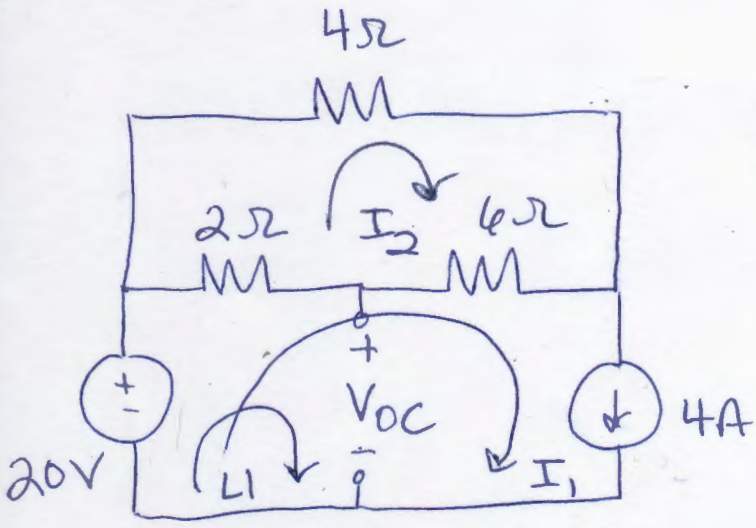
EE 213 Honors – Spring 2020
Quiz 3 - 20 points

Name Solutions

Using a Thevenin Equivalent Circuit, find the current through the 10 Ω resistor, I_L.





$I_1 = 4$

M2: $-4I_2 - 8(I_2 - I_1) = 0$

$-12I_2 = -32$

$I_2 = 2.67\ A$

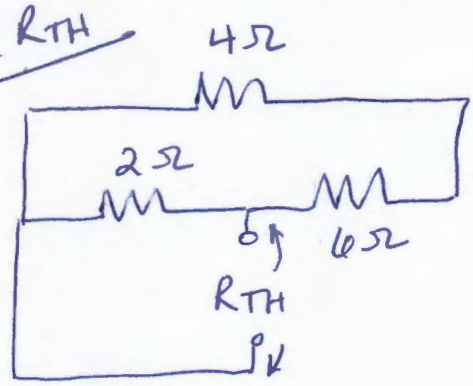
submesh L1

$20 - 2(I_1 - I_2) - V_{OC} = 0$

$V_{OC} = 17.33\ V$

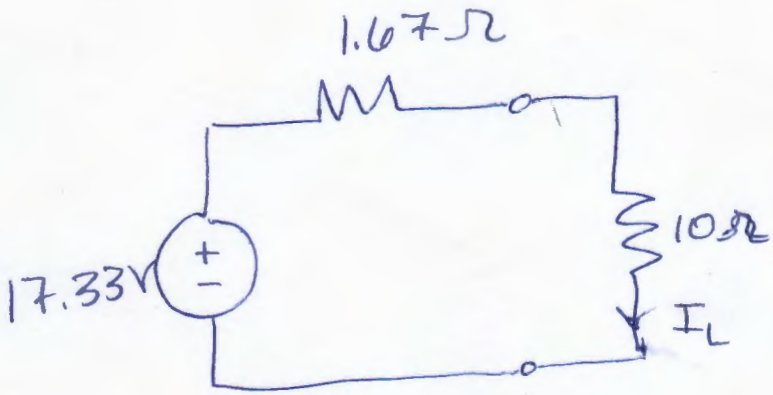
+10 $\boxed{V_{TH} = 17.33\ V}$

Find R_{TH}



$R_{TH} = 10 \| 2$

+8 $\boxed{R_{TH} = 1.67\ \Omega}$



$I_L = \dfrac{17.33}{10 + 1.67}$ +2

$\boxed{I_L = 1.49\ A}$