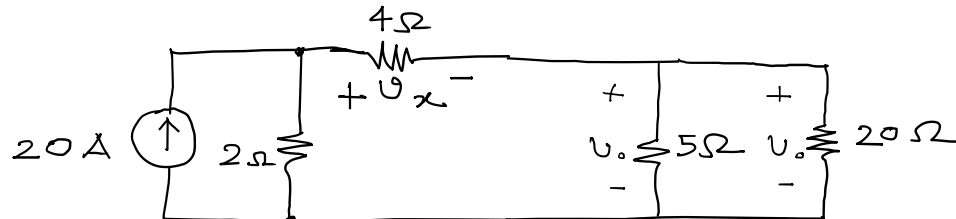


North South University
Fall 2021
EEE141 (sec - 5)
Quiz 1

Marks = 5

Time = 20 minutes

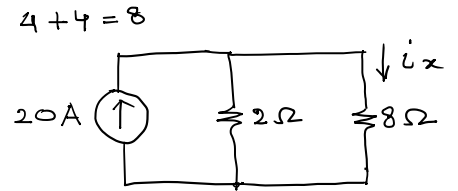
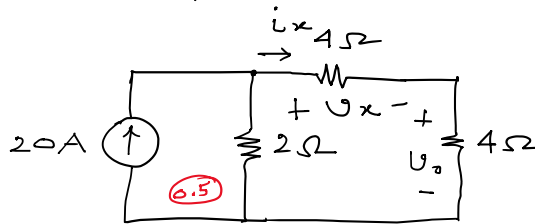
1. In the following circuit, determine v_x and the power absorbed by the $20\text{-}\Omega$ resistor.



SOLUTION :

$$\frac{20 \times 2}{2+2} = 4$$

(0.5)



$$\begin{cases} v_o = 4i_x = 16\text{ V} \\ p_{20} = \frac{v_o^2}{20} = \frac{16^2}{20} = 12.8\text{ W} \end{cases}$$

$$\begin{cases} i_x = \frac{20}{2+8} \times 2 = 4\text{ A} \\ v_x = 4i_x = 16\text{ V} \end{cases}$$