Circuit Theory 1

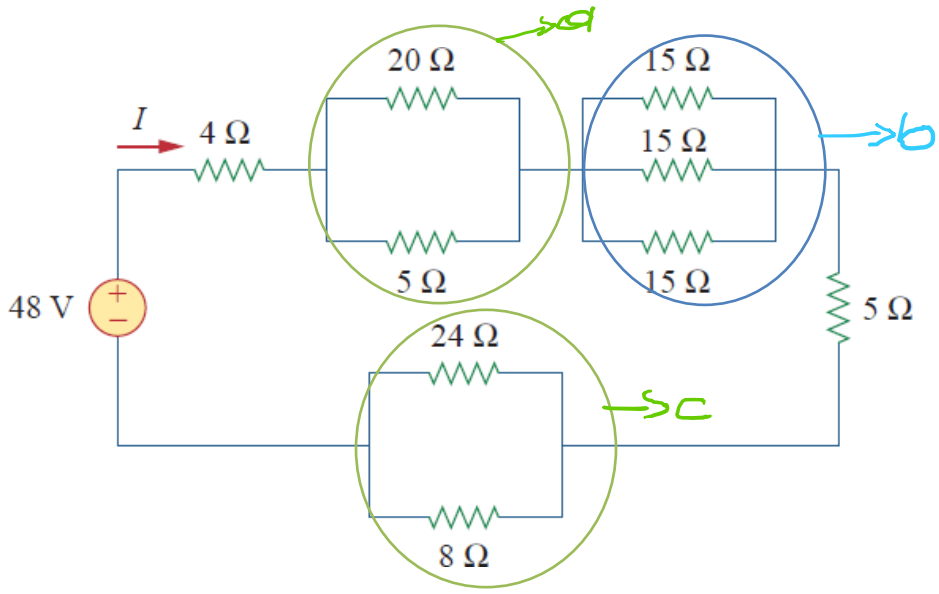
Fundamental of Electronics

Homework 3

Student Name : BARIS
Student Surname : KARAPELIT
Student Number : 21707346

Circuit 1, HW3

Find *I* in the circuit below



Parallel to:

$R_{EQ}=\frac{1}{\frac{1}{R_1}+\frac{1}{R_2}+\frac{1}{R_3}+....}$

a to :

$a_{eq}=\frac{1}{\frac{1}{20}+\frac{1}{5}}=\frac{1}{\frac{5}{20}}=4\ \Omega$

b to :

$b_{eq}=\frac{1}{\frac{1}{15}+\frac{1}{15}+\frac{1}{15}}=\frac{1}{\frac{3}{15}}=5\ \Omega$

c to :

$c_{eq}=\frac{1}{\frac{1}{24}+\frac{1}{8}}=\frac{1}{\frac{4}{24}}=6\ \Omega$

Series to:

$R_{EQ}=R_1+R_2+R_3+.....$

$R_{EQ}= 4 + a + b + 5 + c$

$= 4 + 4 + 5 + 5 + 6$

$R_{EQ}= 24\ \Omega$

$V = I.R$

$I=\frac{V}{R}$

$I=\frac{48}{24}$

$I = 2\ A$