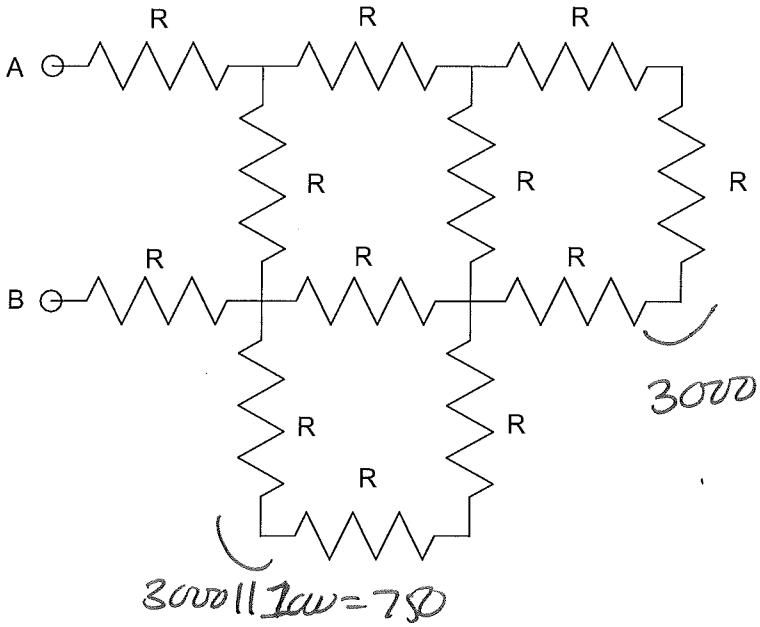
ECE 320 Quiz 1: Name _____

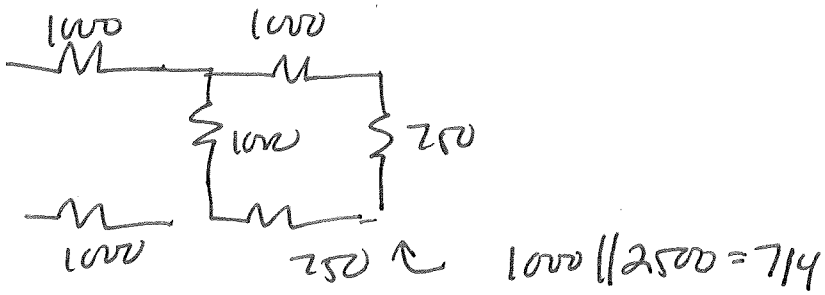
September 3, 2015. EE 206 Review

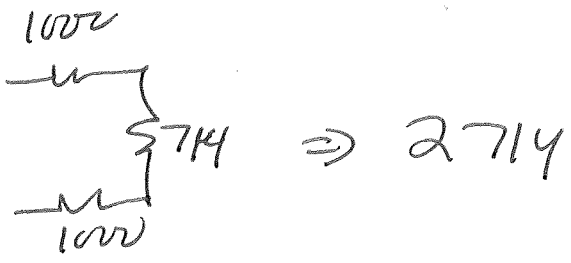
1) Assume each resistor is 1000 Ohms. Determine the resistance between A and B

R_{AB} =	2714 Ω

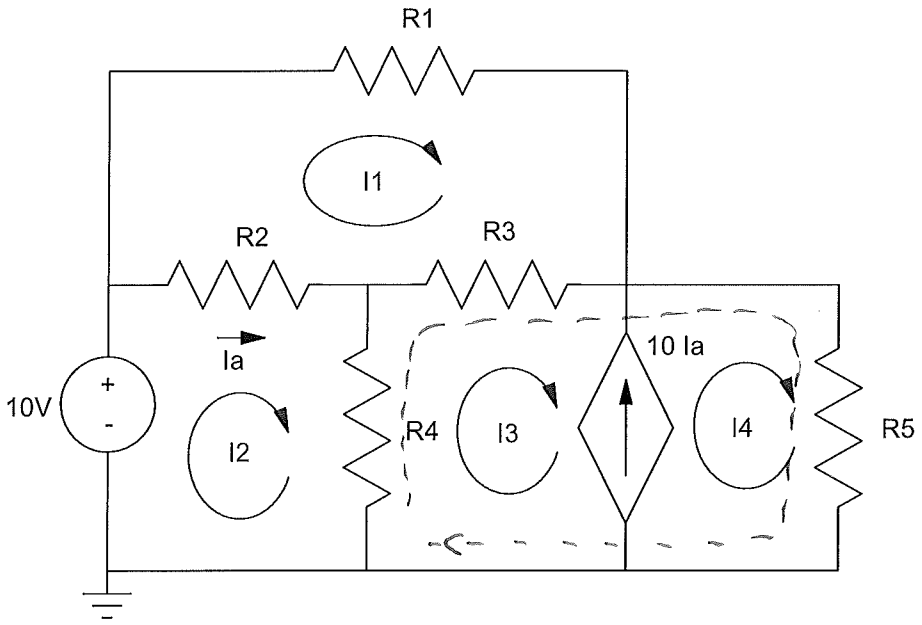


Redraw





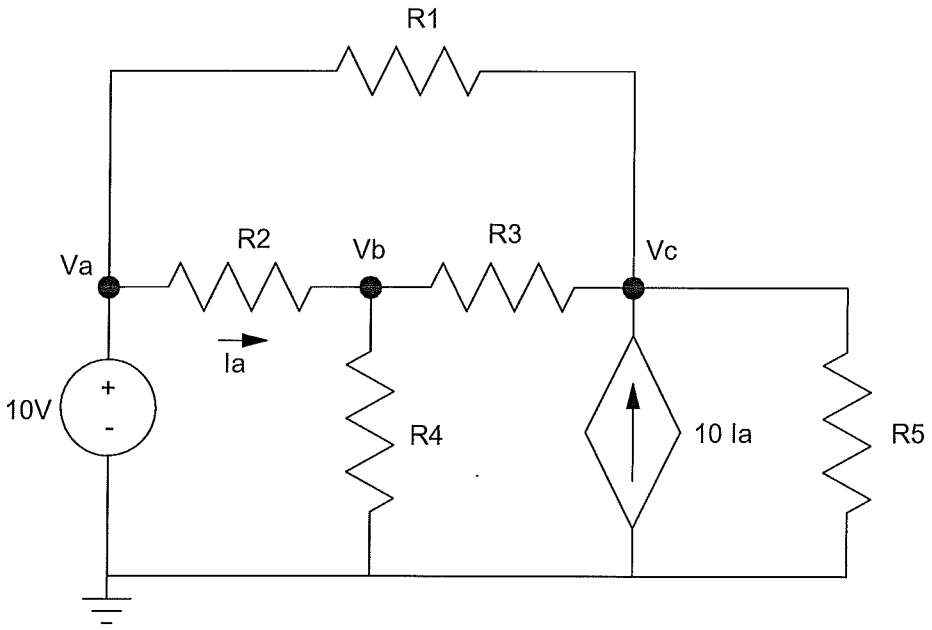
2) For the following circuit, use current loops (KCL) to write N equations to solve for N unknowns. Yuo don't need to solve.



Loop Equations:

$I_1 R_1 + (I_1 - I_3) R_3 + (I_1 - I_2) R_2 = 0$
$-10 + (I_2 - I_1) R_2 + (I_2 - I_3) R_4 = 0$
Supermesh $(I_3 - I_2) R_4 + (I_3 - I_1) R_3 + I_4 R_5 = 0$
I source $I_4 - I_3 = 10 (I_2 - I_1)$ I_a

3) For the following circuit, use voltage nodes (KVN) to write N equations to solve for N unknowns. You don't need to solve.

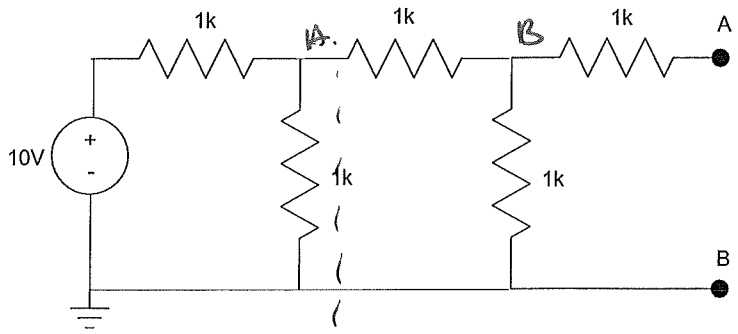


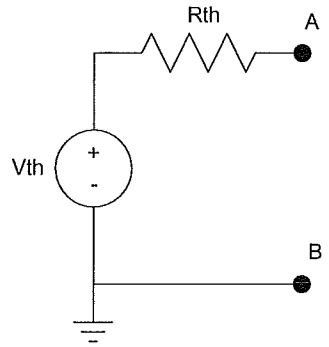
Voltage Node Equations:

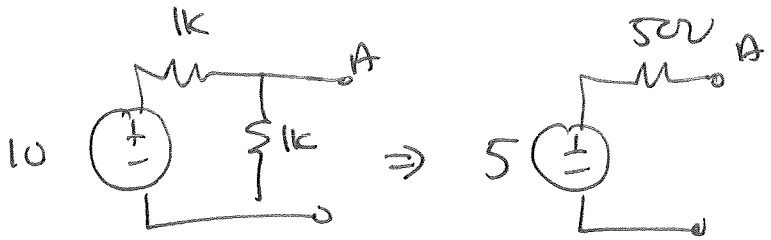
$V_a = 10$
$\frac{V_b - V_a}{R_2} + \frac{V_b}{R_4} + \frac{V_b - V_c}{R_3} = 0$
$\frac{V_c - V_a}{R_1} + \frac{V_c - V_b}{R_3} + \frac{V_c}{R_5} - 10\left(\frac{V_a - V_b}{R_2}\right) = 0$

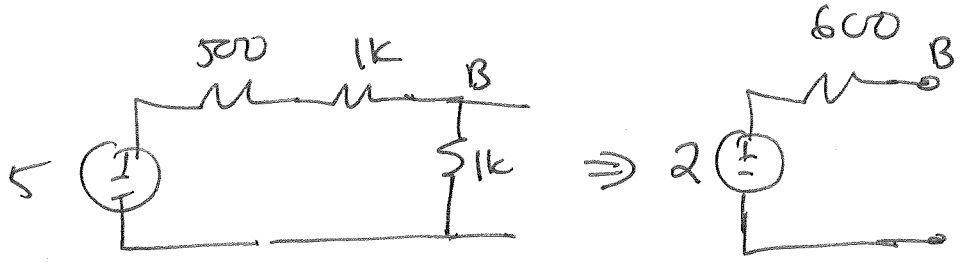
4) Find the Thevenin equivalent for the following circuit.

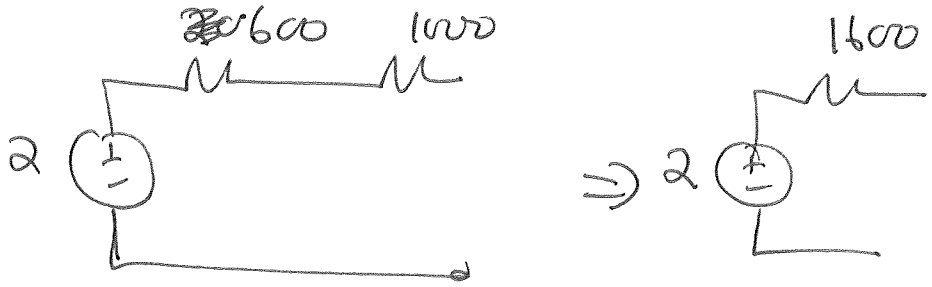
Vth	Rth
2V	1600 Ω











5) The following graph shows the functions

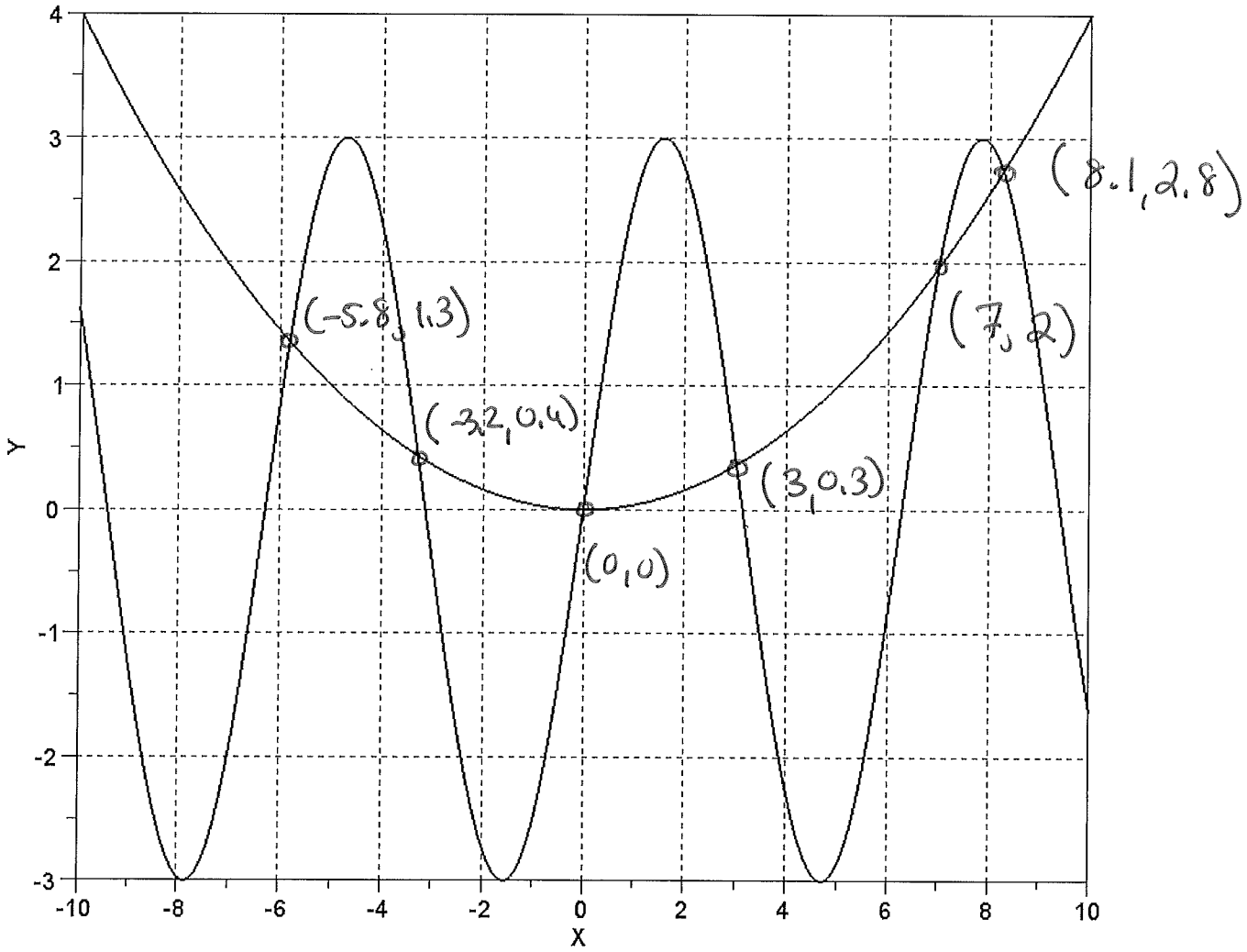
$y = 3\sin(x)$

$y = 0.04x^2$

Find all solutions to these two equations

6 solutions

See graph



BONUS! Steven Colbert Trivia! Jeb! Bush is one of the first guests on Steven Colbert's Late Show and has already started a controversy. What is it?

a) The Jeb! Bush campaign started running a fund-raising campaign to see the Colbert Show without asking the Colbert Show.

b) Insisting that D****d T***p's name not be mentioned on the show.

c) Insisting that Colbert sign a pledge that he will not run for President as a 3rd party candidate.

d) The writers for the Cobert Show refused to provide the questions that Colbert will ask Jeb! Bush along with the answers.

e) The Bush Campaign does not want the interview to be placed on the internet unless they can edit it first.