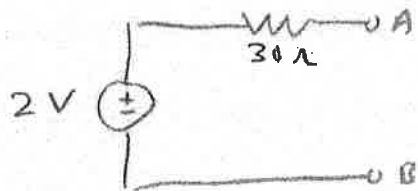ECE 209 Exam #2 Answer Key

ECE 210-Exam #2 - 1 march 2013
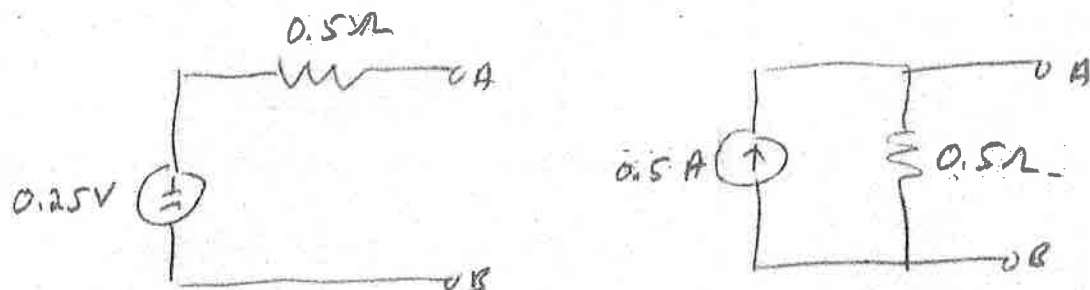
Problem 3:

2V (±) ——WW——o A   30Λ, output A and B

Problem 4: $V_0 = -(2000 V_{in} + 1)$
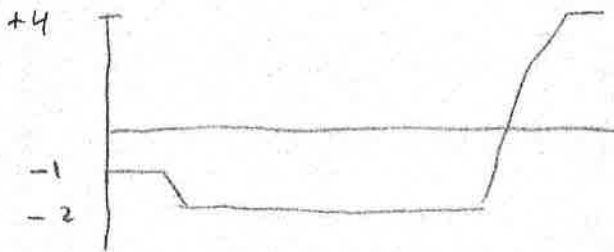
ECE 209 - Exam #2 - 28 October 2014

Problem 1:

0.8V (±) ——WW——o A 1.6KΛ

(↑) 0.5mA ⌇ 1.6KΛ o A ... o B
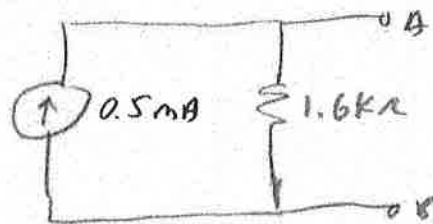
Part C: 1.6KΛ, 10^{-4}W

Problem 2:

Problem 3 : $V_{OUT} = -V_{IN}$

−5.0 V	3 V
−2.5 V	2.5 V
0	0
2.5 V	−2.5 V
5.0 V	−3 V

Problem 4: $V_{OUT} = 10 V_{in} - 0.45$

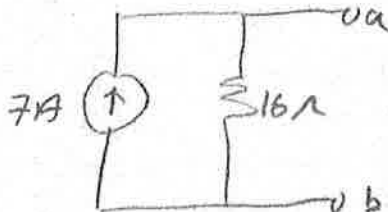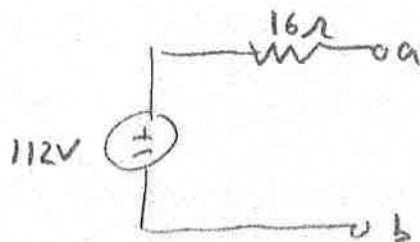| −1.0	−10
−0.5	−5.45
0	−0.45
0.5	4.55
1.0	9.55

Problem 5: 20pF , 5mH

Problem 6 : $V_R = 20 \cos(50t)$

$V_L = -10 \sin(50t)$

ECE 209 - Exam #2 — 27 February 2015

Problem 2:

Problem 3!
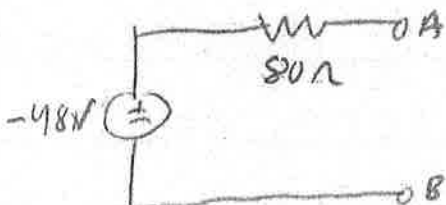
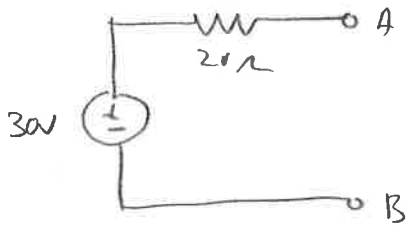

Problem 4! $V_{OUT} = 4 V_{in}$

-4	-10
-2	-8
0	0
2	+8
4	+10

ECE 209 — Exam #3 — 3 April 2015

Problem 1: $4 \mu F$, $75 mH$

Extra Credit Problem: $10 \mu J$, $40 \mu J$, $24 mW$
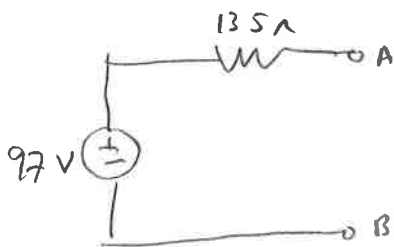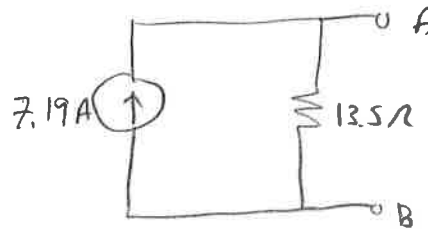
ECE 209 Exam #2 - 29 October 2015

Problem 1:

30V source, 20Ω resistor to terminals A and B

Value of R_L that maximizes
Power transfer: 20Ω

Max. Power dissipated by R_L: 11.25W

Problem 2:

97V source, 13.5Ω resistor

Thévenin

7.19A current source, 13.5Ω

Norton

Problem 3:

$V_{OUT} = 30 - 5V_{in}$

$V_{in} = 4V, \quad I_{IN} = -0.1 mA$

$V_{in} = 4V, \quad I_{OUT} = -0.6 mA$

V_{in}	V_{OUT}	
$-4V$	$45V$	Saturation
$-2V$	$40V$	
$0V$	$30V$	
$2V$	$20V$	
$4V$	$10V$	

Problem 4:

140 pF

20 mH