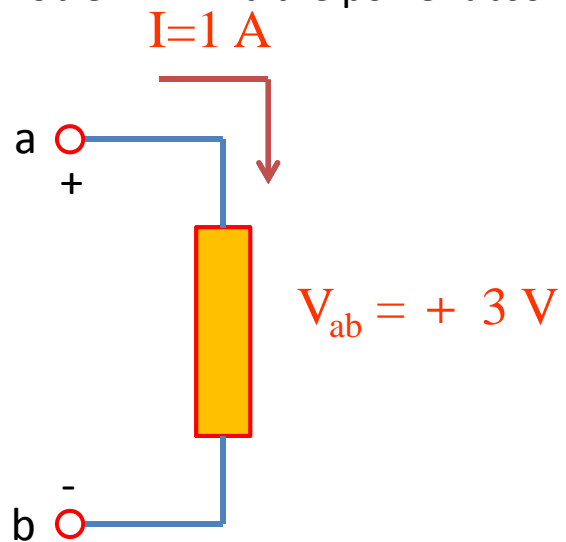# EECS 70A: Network Analysis
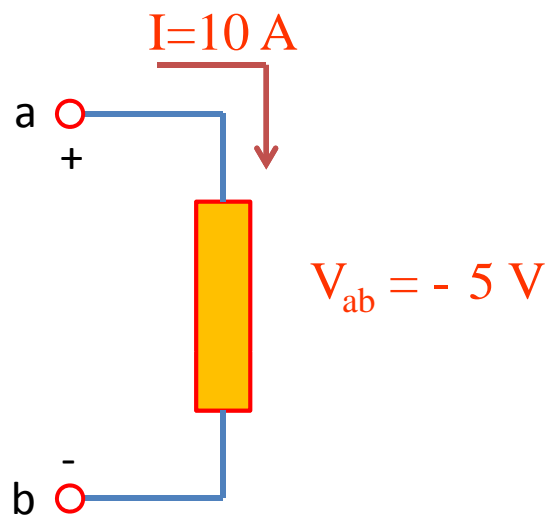
Homework #1

Due in discussion section, Wednesday, April 7, 2010.

Problem 1: Find the power absorbed or supplied by the element.
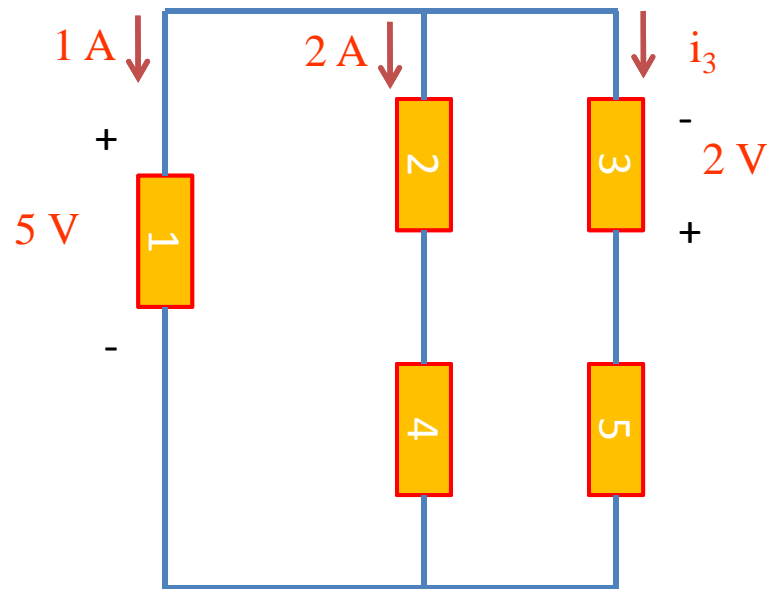
$I=1\ A$

a

+

$V_{ab} = +\ 3\ V$

-

b

Problem 2: Find the power absorbed or supplied by the element.
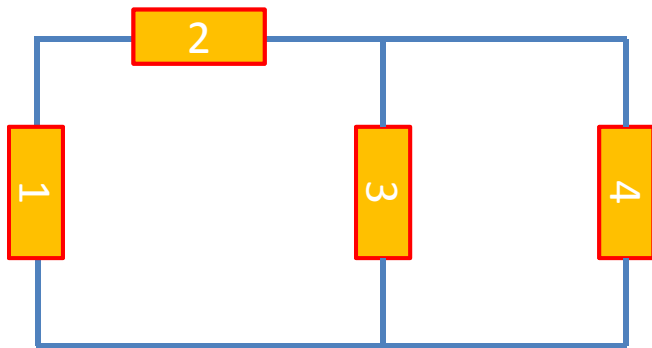
$I=10\ A$

a

+

$V_{ab} = -\ 5\ V$

-

b

Problem 3:
a) Find i_3.
b) Find the power absorbed or supplied by element 3.
c) Is element 3 a source or a sink?

Problem 4: (Power balance)
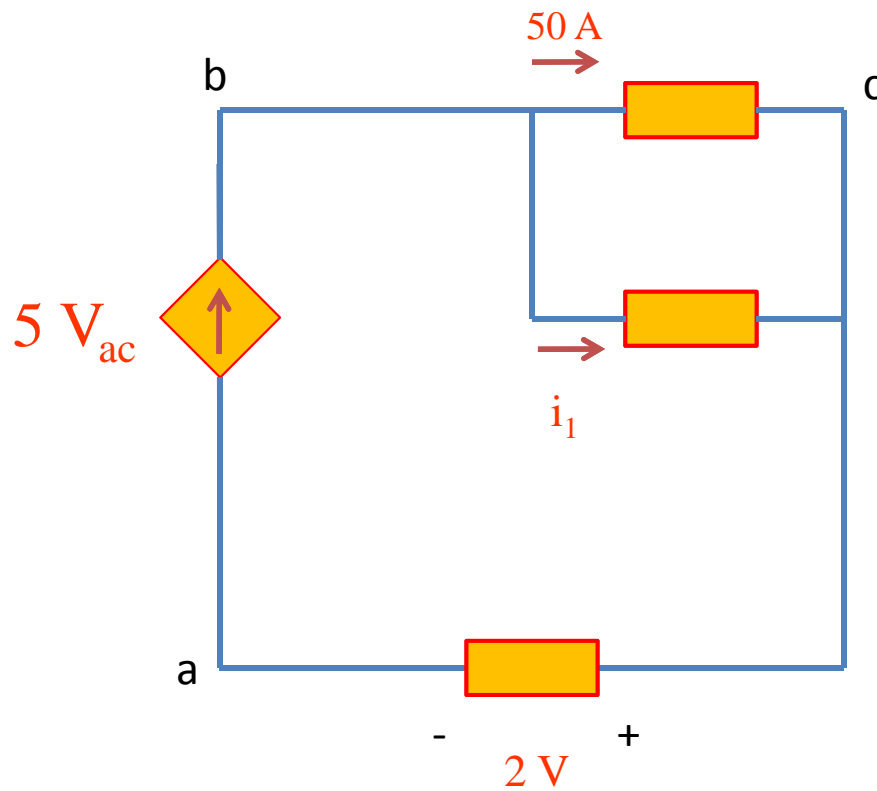
Assume $P_1 = 10$ W, $P_2 = 30$ W, $P_3 = -5$ W.

Find the power absorbed or supplied by element 4. Is it a source or a sink?
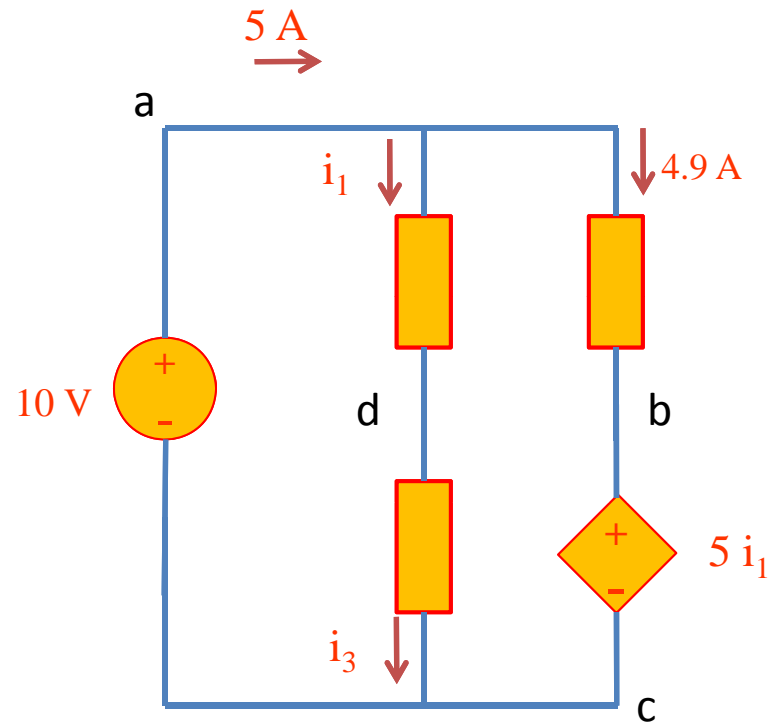
Problem 5: (VCCS)

Find i_1.

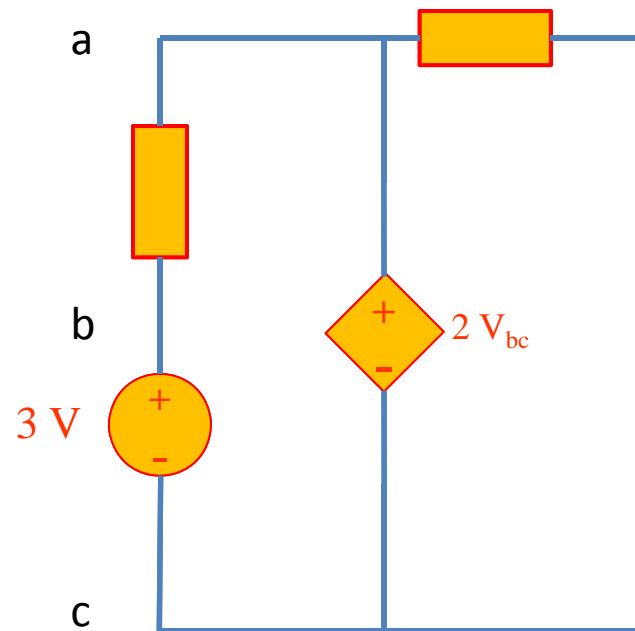Is current flowing from b to c or from c to b?

Problem 6: (CCVS)
Find i_1, i_3.
Find V_{bc}.

Problem 7: (VCVS)
Find V_{ac}.

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Problem 8: (CCCS)
Find i_1.