

ECE 210 — Exam # 1

Estimated time for completion: <1 hour
5 February 2013

Rules of the Exam

Rule 1: The examination period begins at 1:10pm on Tuesday 5 February 2013 and ends at 2:00pm on Tuesday 5 February 2013.

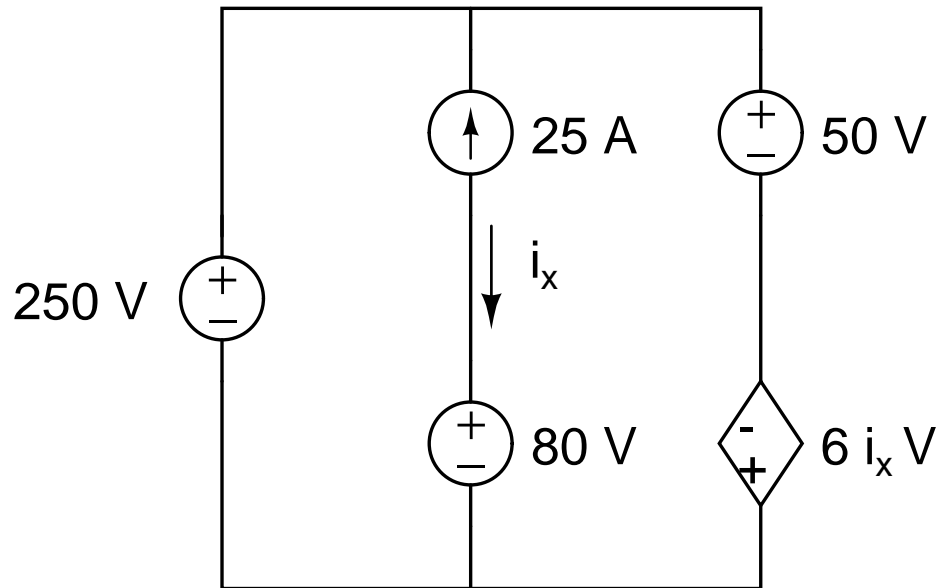
Rule 2: There are four problems. Each problem has equal weight.

Rule 3: There is no smoking during the exam.

Rule 4: The exam is closed book and closed notes but you may use a 4" x 6" sheet of paper with notes during the exam. You may use a calculator.

Name

Problem 1 Consider the circuit below:

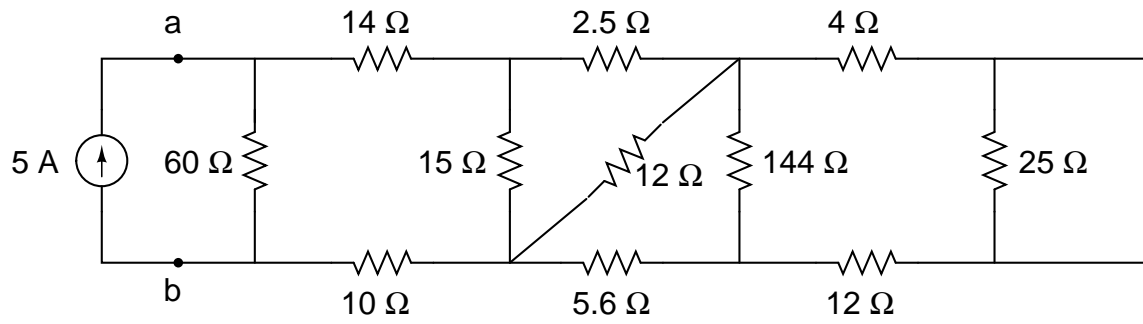


Is the interconnection valid (yes/no)? _____

If the circuit is valid, what is the total power generated in the circuit? _____

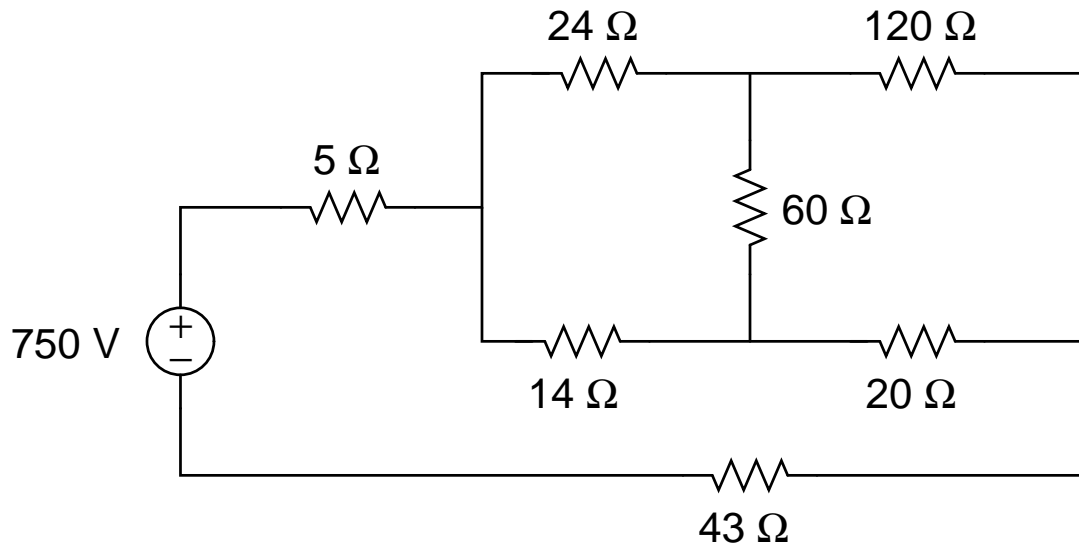
If the circuit is not valid, explain why:

Problem 2 In the circuit below:



What is the equivalent resistance R_{ab} ? _____

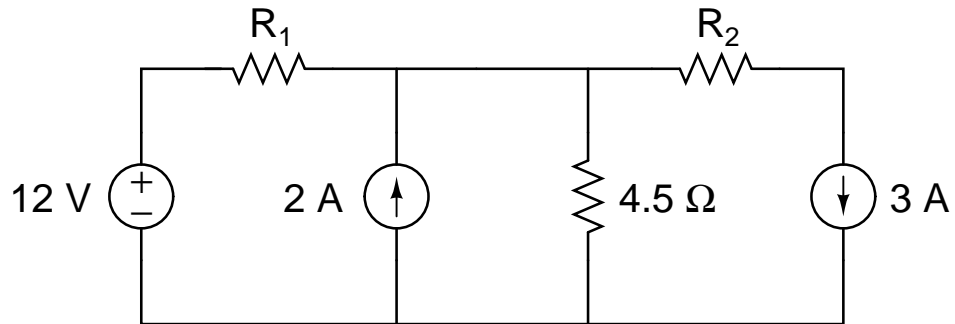
Problem 3 In the circuit shown below:



How much power is dissipated in the circuit? _____

Problem 4

In the circuit shown below, the 2A source delivers no power and absorbs no power. The resistors in the circuit dissipate a total of 21 Watts of power. Determine the values of R_1 and R_2 .



$$R_1 = \underline{\hspace{2cm}}$$

$$R_2 = \underline{\hspace{2cm}}$$