Questions and Answers

From ECE 2300 class, February 13, 2013

Q: Finish the examples in class or give the answer and have us finish it on our own.

A: Fair enough. I prefer to finish the examples in class, but when time runs out, I will give the numerical solutions. So, for Example Problem #1, Slide 69, from Lecture Set #3, the solutions are *vW* = -4.25[V], and *iX* = -1.66[mA].

Q: The graded quiz came back to us fast. When should we expect to see graded homeworks?

A: Homework #1 will come back to you in the next class meeting. Homework generally takes longer to come back at the beginning of the semester, then becomes quicker in turnaround.

Q: When a resistor is in parallel with a wire, can you replace the resistor with the wire?

A: Not really. In this case, you should replace the resistor with an open circuit. Similarly, when you have a resistor in series with an open circuit, you should replace the resistor with a short circuit (a wire). Here is the concept: When you have a short circuit across a resistor, there is no voltage across the resistor. Since it is a resistor, no voltage means no current. Since there is no current, it should be replaced with an open circuit. Similarly: When you have a open circuit in series with a resistor, there is no current through the resistor. Since it is a resistor, no current means no voltage. Since there is no voltage, it should be replaced with a short circuit. Taking this approach prevents problems later.

Q: Can we use VDR or CDR on multiple resistors (more than 2)?

A: Yes, and no. VDR works for more than 2 resistors, because series resistors add. CDR does not work with more than 2 resistors, because you have to reduce the multiple parallel resistors using the parallel rule (inverse of the sum of the inverses).

Q: I noticed d’Arsonval meters in the homework. When will we learn about these?

A: In the next class.

Q: Should delta-to-wye transformations be used only when no parallel or series relationships are available?

A: Practically speaking, yes. You can use them any time you want. However, delta-to-wye transformations are so time consuming compared to series and parallel combinations, that it is generally faster not to use them. Consider delta-to-wye transformations as a tool of last resort.