Group project: Kirchhoff's Laws

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Instructions

Students will complete **one** project as part of a group of 4-7 students. All students should participate in discussions on solving the given problem. All students should attempt the required computations, and agree on correct solutions. The solution of the project should be a single document in pdf format. This may be handwritten by a single student, but should represent the work of the whole group. All members of the group should be listed on the first page, and all group members may upload the same document on Canvas.

Required knowledge

Kirchhoff's Laws: See Section 1.10 of the textbook.

The following youtube links might be helpful too:
https://www.youtube.com/watch?v=tSJnqtnsuHY
https://www.youtube.com/watch?v=DPNuiyi6XLQ

Questions

Question 1: Find Kirchhoff's Laws and Ohm's Law in a physics or electrical engineering textbook, and give these laws with any other definitions (e.g. current, voltage) which are necessary. (The response to this question should be no more than one handwritten page.)
Question 2: Formulate Kirchhoff's Laws and Ohm's Law in terms of linear algebra.
Question 3: Give a complete analysis of the circuits in Questions 7 and 8 in Exercises 1.10 in the textbook.