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| **Title** | 7th homework in the Electric Circuit Theory class by 201923250 |

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**Summarization chapters from 4.1 to 4.5**

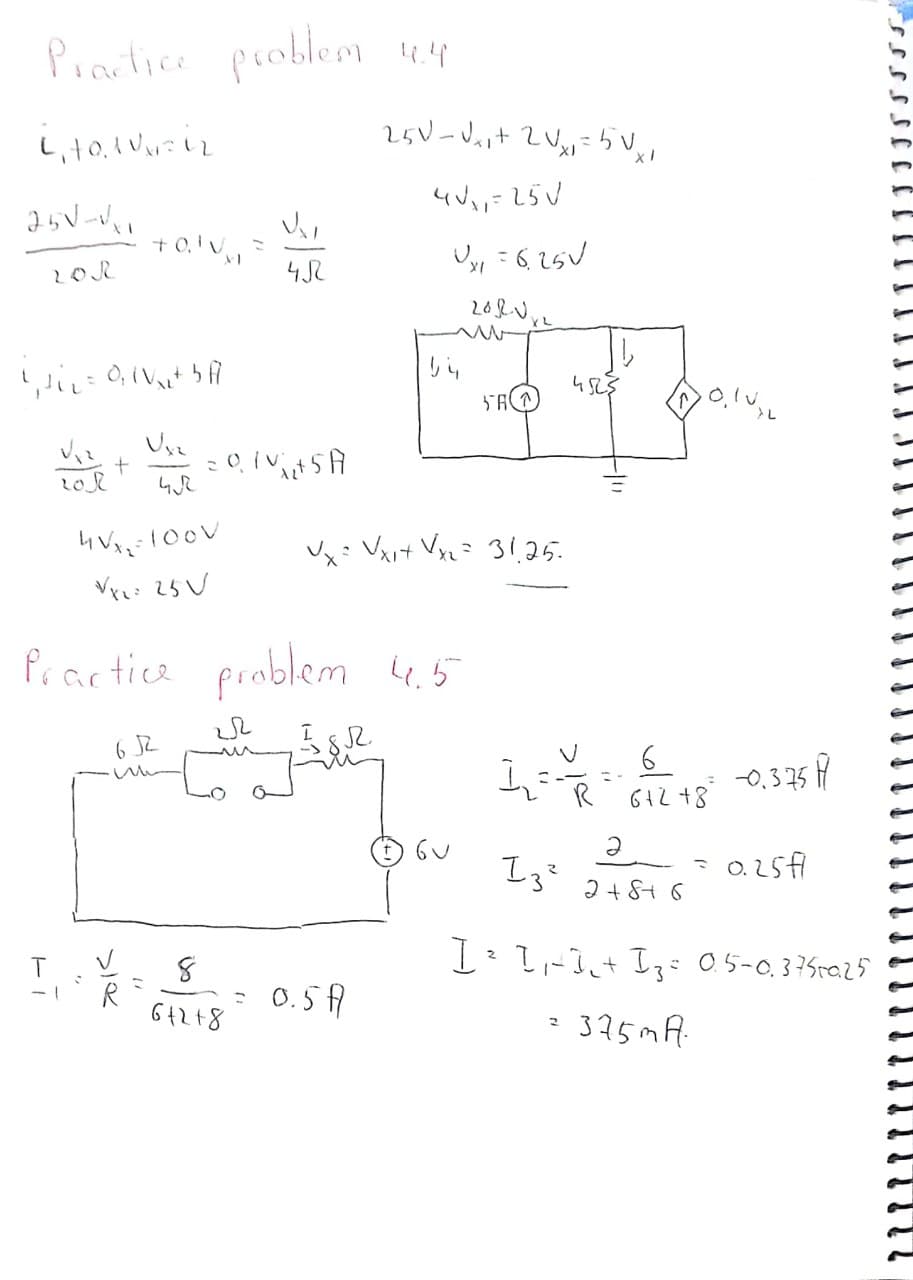
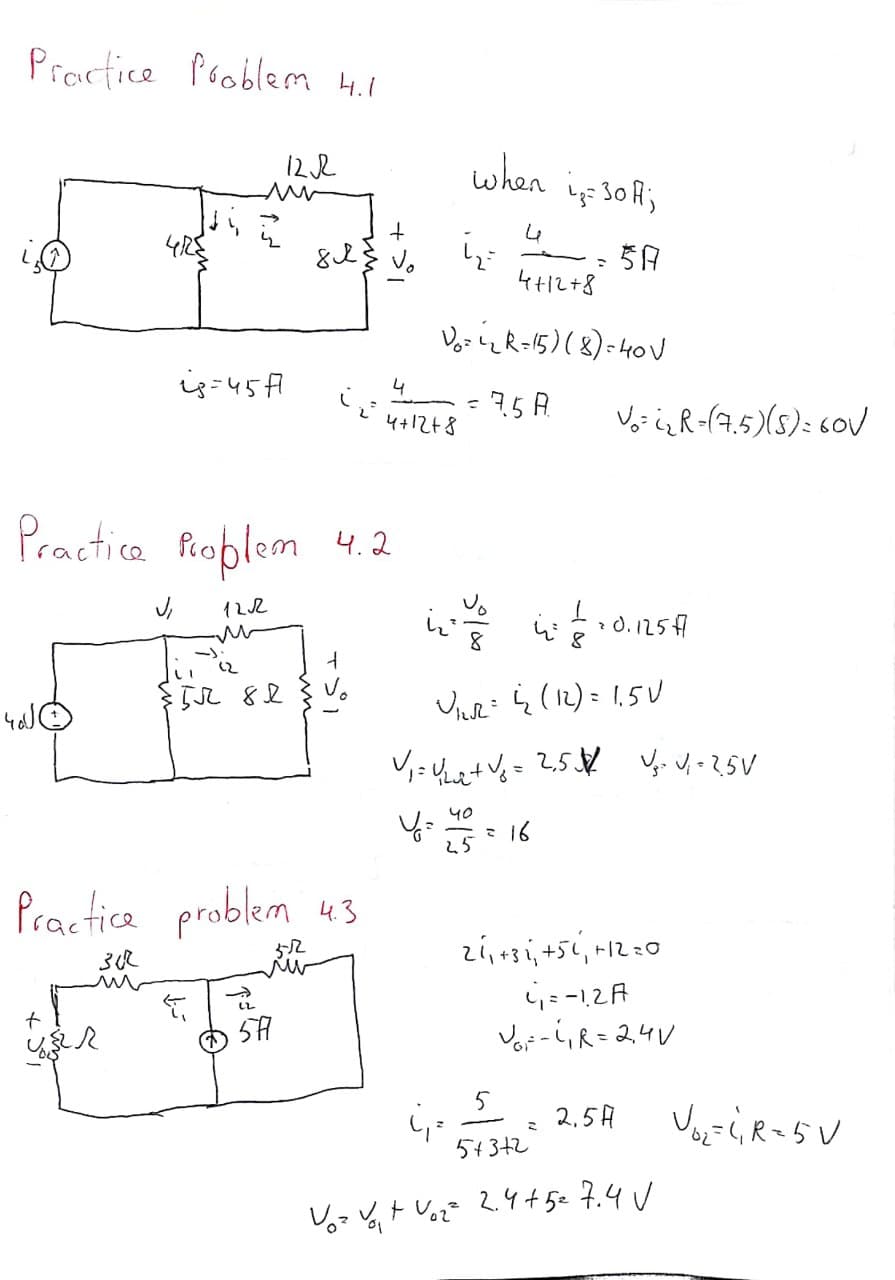
The development in electrical circuit application areas has led to a change from basic to complex circuits. Over the years, engineers have built such theorems to simplify circuit analysis in order to deal with the complexities.

Linearity is the characteristic of an element that describes a linear association between cause and effect. While the property extends to several circuit components, its applicability in this chapter is restricted to resistors. The property combines the property of homogeneity and additivity.

A linear circuit has a linear output for its data. The theory of superimposition states that the voltage across a linear circuit element is the algebraic sum of the voltages across this element that each independent source acts on their own.

The theorem of Thevenin says that a linear two-terminal circuit can be replaced by a VTh voltage source, in sequence, with an RTh resistor where VTh is the open circuit voltage at the device and RTh the terminal entrance or equal resistance while the independent source is off.

**Practice Problem Solutions from chapters 4.1 to 4.5**

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