VE215 2025SU Assignment 2

Due Date: 23:59, June.5th, 2025
In order to get full marks, you shall write all the intermediate steps of calculation or proof, unless otherwise indicated.
Please box your answers

Exercise 2.1 (15%) Use superposition to find V_0 in the circuit below.

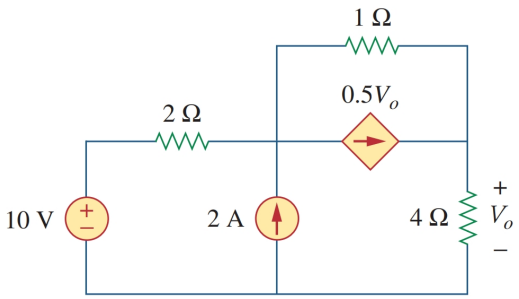

Figure 1: Exercise 2.1

Exercise 2.2 (15%)use source transformation to determine the current and power absorbed by the 8 Ω resistor

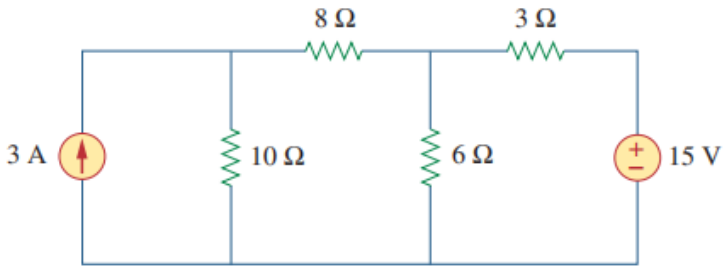

Figure 2: Exercise 2.2

Exercise 2.3(25%)
(a) (20%) Obtain the Thevenin and Norton equivalent circuits at terminals a-b of the circuit. Draw the circuit
(b) (5%) Calculate the maximum power transferred to a resistor that connects between terminals a-b.

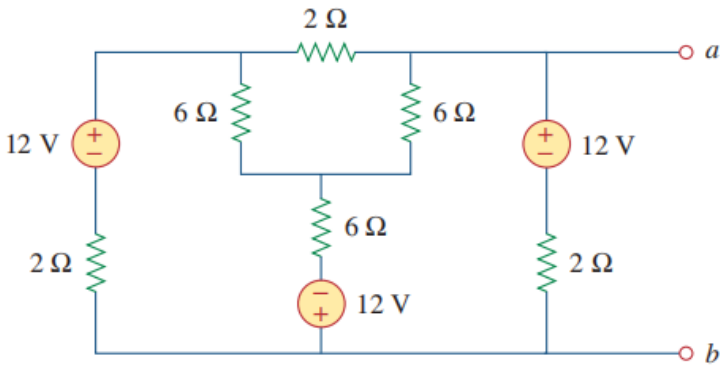

Figure 3: Exercise 2.3

Exercise 2.4 (20%)Find the maximum power transferred to the resistor R

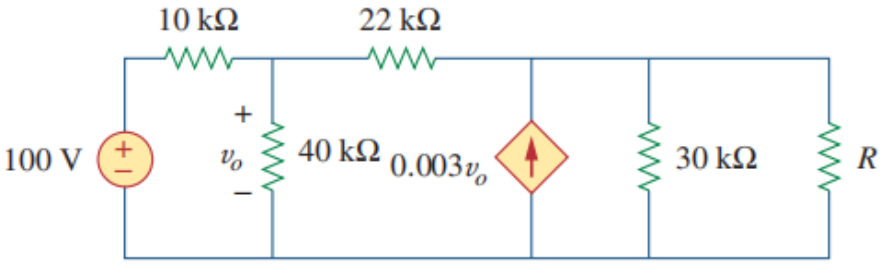

Figure 4: Exercise 2.4

Exercise 2.5(25%)
(a) (20%) Obtain the Thevenin and Norton equivalent circuits at terminals a-b of the circuit. Draw the circuit.
(b) (5%) Calculate the power transferred to a resistor of 10 Ω that connects between terminals a-b.

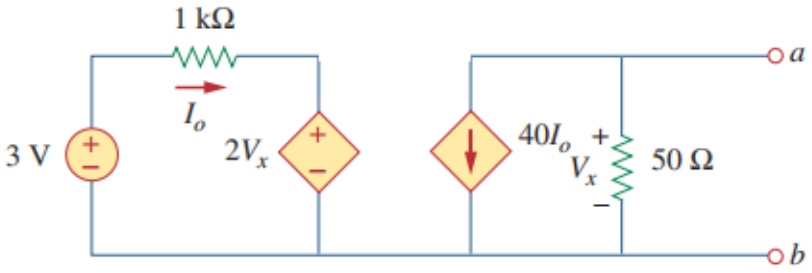

Figure 5: Exercise 2.5