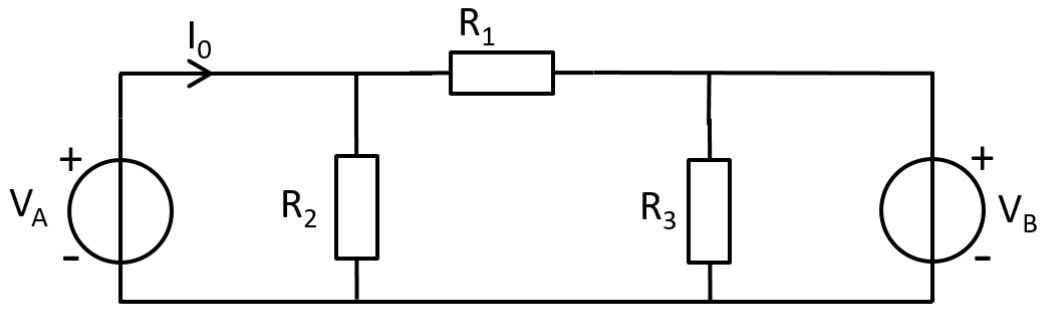
Home Assignment 1, IE1206 & IF1330, VT2020

Problem 1

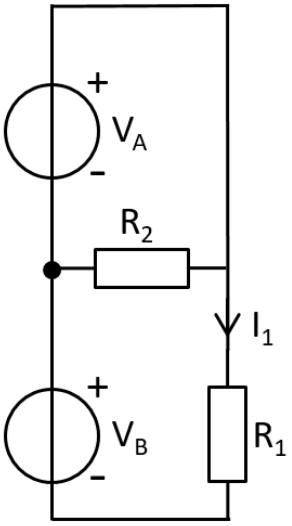


Calculate I_0. V_A=8 V, V_B=6 V, R_1=1 kΩ, R_2=2 kΩ, R_3=12 kΩ

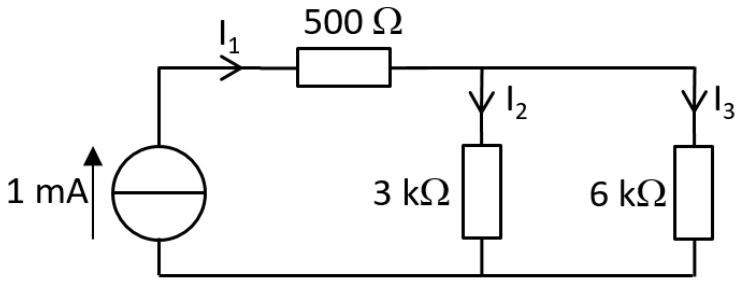
Problem 2

Determine I_1.

V_A=3 V, V_B=1 V, R_2=1 kΩ, R_1=4 kΩ.

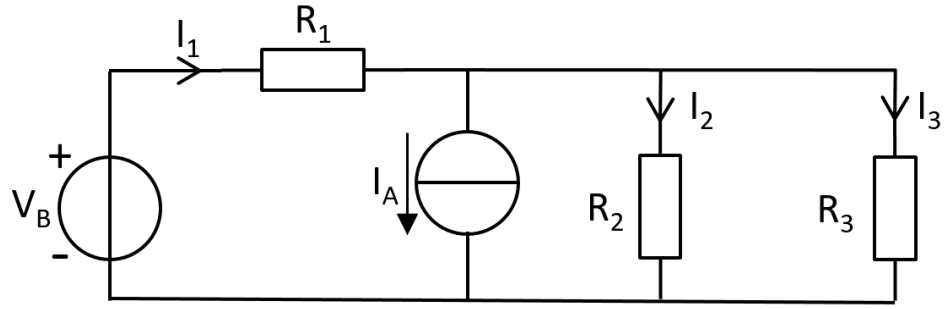


Problem 3



Determine I_1, I_2 and I_3.

Problem 4

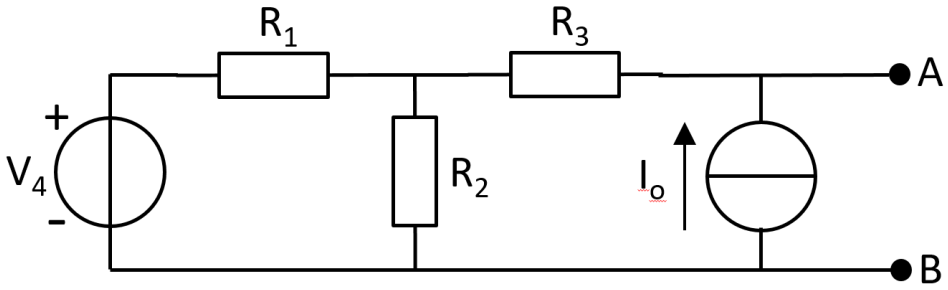


R_1=2 kΩ, R_2=2 kΩ, R_3=4 kΩ, I_A=2 mA, V_B=6 V.

(a) Determine the electrical power consumed in R_1, R_2 and R_3

(b) Determine the electrical power consumed/delivered in the current source I_A and the voltage source V_A

Problem 5

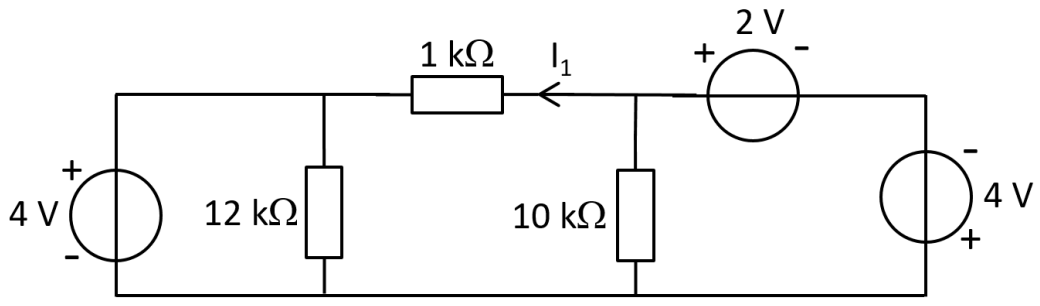


R_1=R_2=R_3=1 kΩ, V_4=4 V.

a) Determine the voltage V_{AB} when I_o= 1 mA.
What is the power delivered/consumed in V_4 and I_o?

b) Determine the voltage V_{AB} when I_o= 10 mA.
What is the power delivered/consumed in V_4 and I_o?

Problem 6



Determine I_1