Boumerdes University
Faculty of Technology
Department of Electrical Systems Engineering
Speciality: Electronic-S4-
Module : Fundamental Electronic

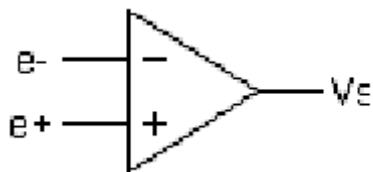Dr Samia BELKACEM   2023/2024

Recitation 5 : Operational Amplifier (AO)

In all the circuits considered in these exercises, the operational amplifier is assumed to be ideal: infinite input resistance (zero input current) and infinite open loop differential amplification (zero differential voltage).
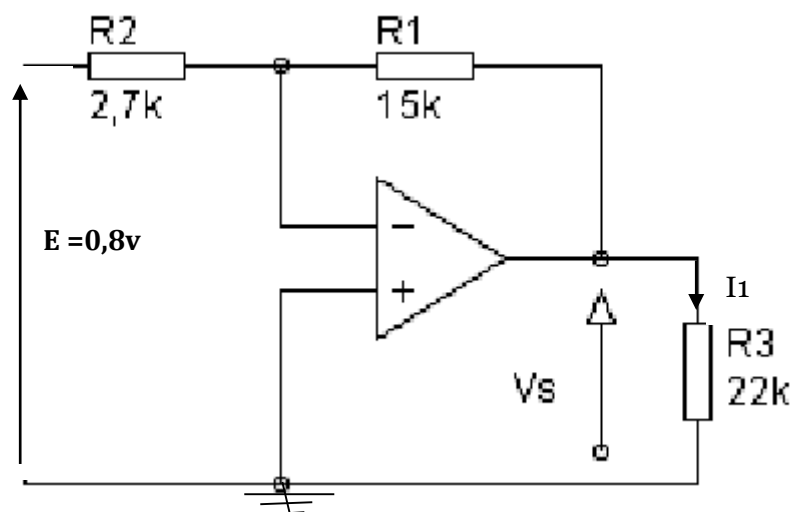

e+ : voltage of the + input (non-inverting input) of the operational amplifier.

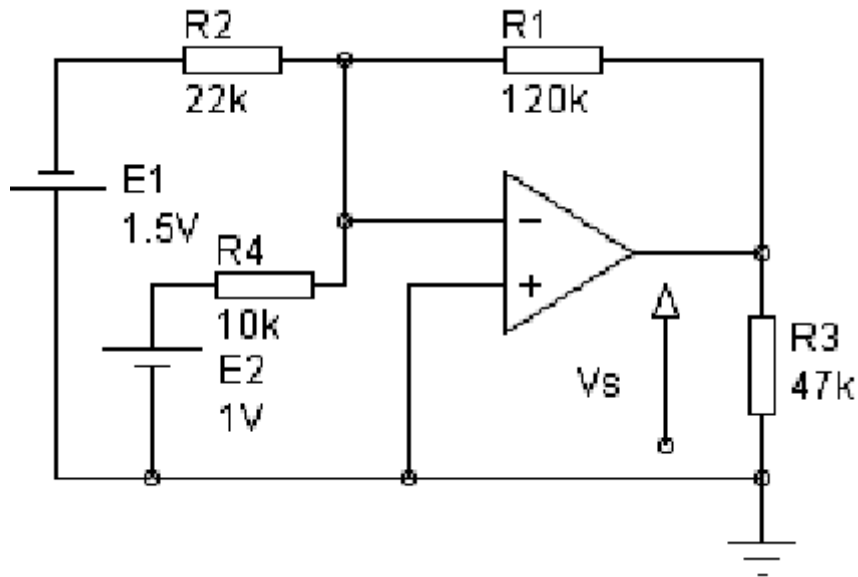e- : input voltage - (inverting input) of the operational amplifier.

Exercice 1

We consider the circuit below :

- Calculate the current flowing in R3.

We consider the circuit based on OA given by the figure below:

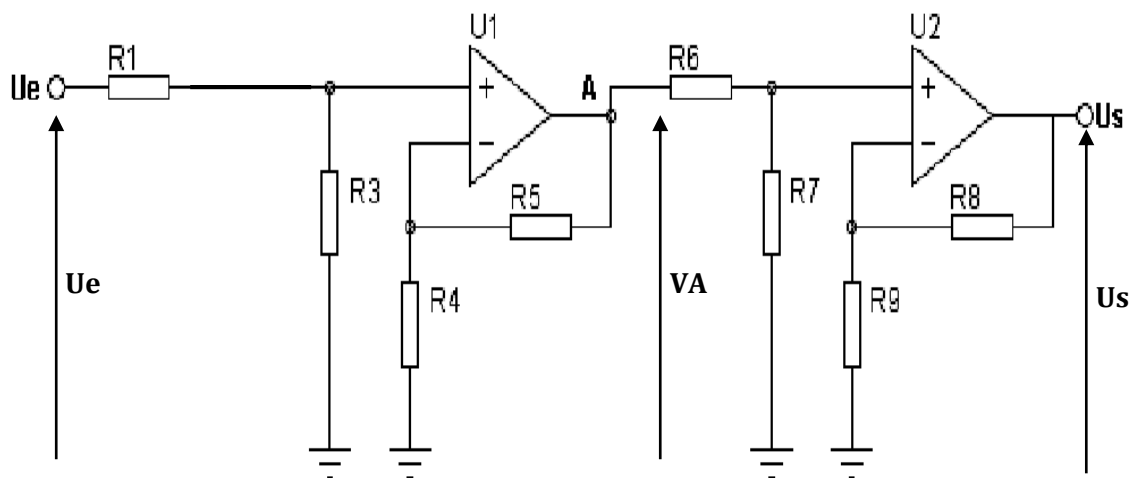- Calculate the voltage Vs according to: E1, E2 and the circuit resistances.

Exercise 3

Figure 1

1. Give the expressions for UA/Ue, Us/UA as a function of the resistances.

2. Calculate the circuit gain: Us/Ue.

Consider the circuit in the figure below:

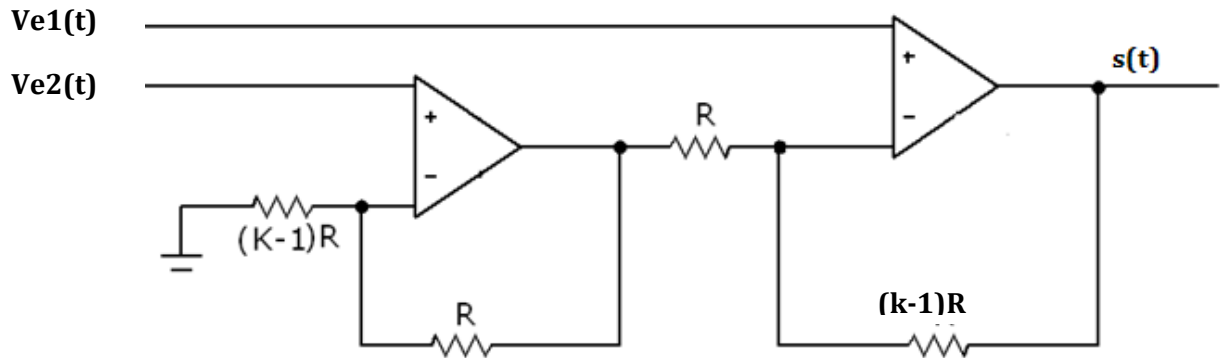**Figure 2**

1. Give the relationship which links the output voltage s(t) to the input voltages Ve1(t) and Ve2(t).

2. How should we choose the constant K to have s(t)=10sinwt for Ve1(t)=2sinwt and Ve2(t)= sinwt?.

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