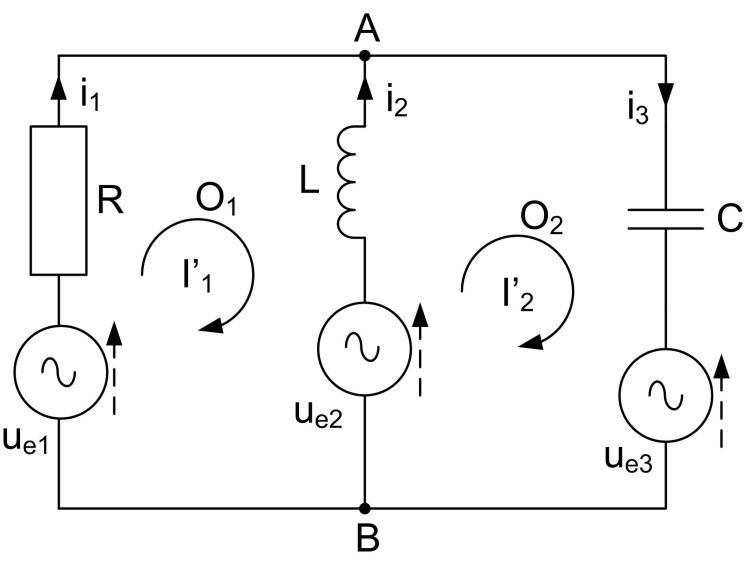
AC

1. Knowing the elements in the circuit from figure 1a determine the currents with Kirchhoff’s laws and verify the results with power balance.

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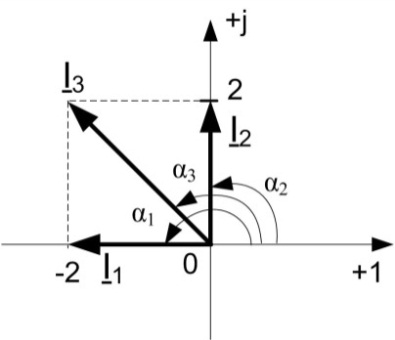
**Fig. 1a**

**Solution**

The complex values of the e.m.f. will be:

1. **Applying Kirchhoff’s laws method:**

The phasor’s diagram is in figure 1b.



**Fig. 1b**

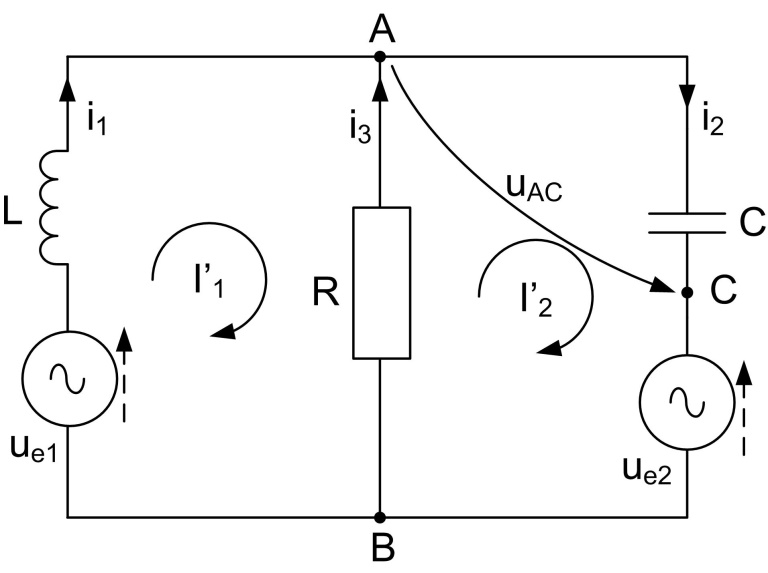
The instantaneous values of the currents will be:

**b. Power balance:**

The complex powers supplied by the sources:

The complex powers absorbed by the consumers:

1. Knowing the elements in the circuit from figure 2a determine the currents with Kirchhoff’s laws and verify the results with power balance. Determine also uAC.

****

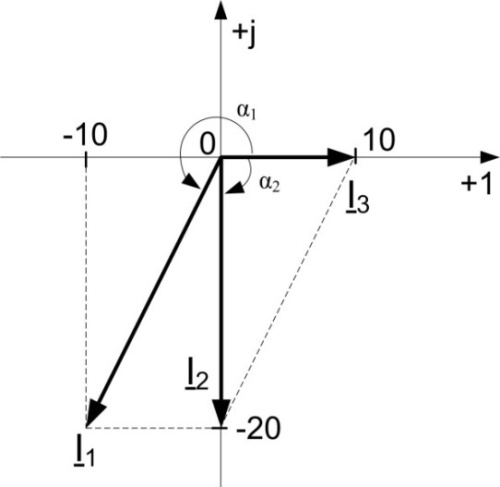
**Fig. 2a**

**Solution**

The complex values of the e.m.f. will be:

1. **Applying Kirchhoff’s laws method:**

The phasor’s diagram is in figure 2b.

****

**Fig. 2b**

The instantaneous values of the currents :

**Power balance:**

The complex powers supplied by souces:

The complex powers absorbed by the comsumers:

The voltage can be computed by applying the second Kirchhoff’s law in the loop ACA:

The instantaneous value: