**AC 1**

1. Transform the following complex numbers into trigonometric and exponential form:

The module of the complex number is is:

.

.

.

.

1. Determine the instantaneous values of the complex currents knowing that the frequency is f=50 Hz.

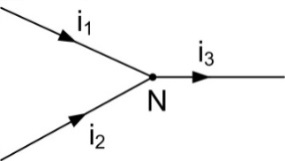
.

The instantaneous value is:

.

.

**3**. In the node N of the network from figure 1a are known the instantaneous values of the currents and .

**

**Fig. 1a**

Determine:

a) the r.m.s value, the initial phase and the instantaneous value of the current ;

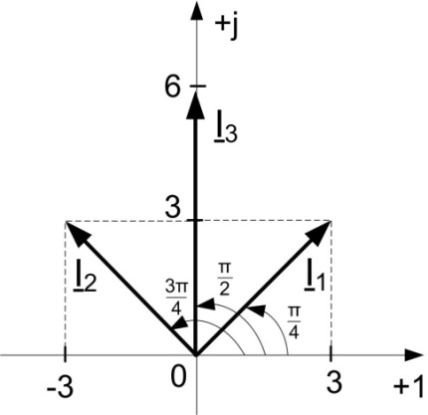
b) represent the phasor diagram of the currents.

1. The complex values of the current will be:

The r.m.s value of the current will be:

The initial phase is:

b) The phasor diagram is represented in figure 1b.

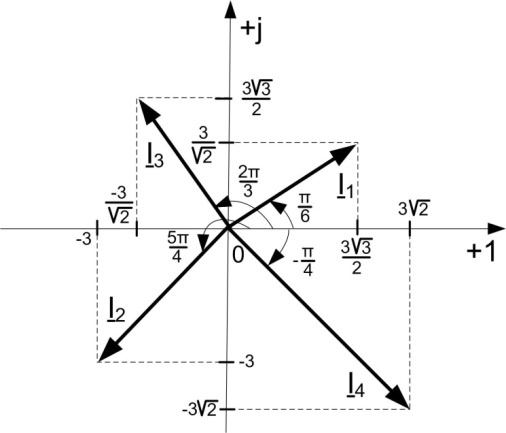


**Fig. 1b**

4. Transform the instantaneous values of the below currents into complex and represent the phasor diagram.

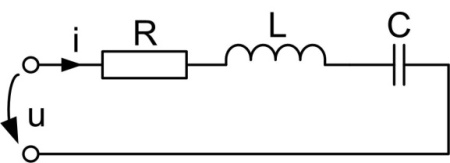
**Solving**

The phasor diagram is represented in figure 2.



**Fig. 2**

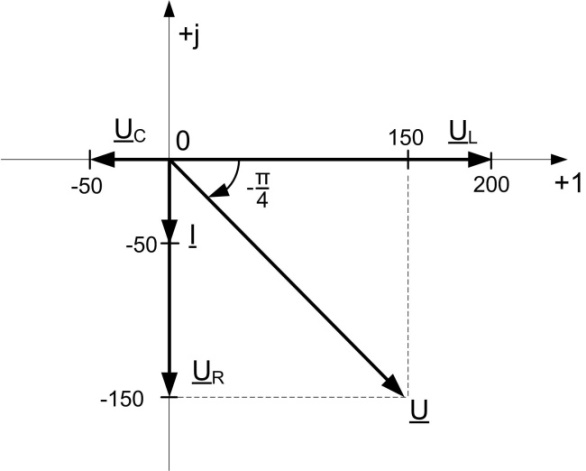
Knowing the circuit bellow determine the equivalent impedance of the circuit, the instantanous value of the current in the circuit, the voltage drops on the elements and the phasors diagram of the circuit.



**Fig. 3a**

**Solution**

The phasor’s diagram is in figure 3b..



**Fig. 3b**