

Unit V. Lessons distribution and self-assessment questions

- Lesson 1. Sections 1 to 4.
 1. The complex numbers are an extension of the real ones, so every real number is a complex number. True or false?
 2. What relation is there between the unity elements of \mathbb{R} and of \mathbb{C} ? And between the null elements of these sets?
 3. Can the sum of two non-real complex numbers be real? Can the sum of two non-imaginary complex numbers be imaginary?
 4. A complex number has only one modulus but a finite number of arguments. True or false?
 5. If the affixes of four complexes form a square, what happens to the square if we multiply the four complexes by $-i$?
- Lesson 2. Sections 5 to 8.
 1. If z is a complex, what is the relation between the conjugate of the opposite of z and the opposite of the conjugate of z ?
 2. In \mathbb{R} only the numbers different from 0 have a multiplicative inverse, but in \mathbb{C} , also the null element has a multiplicative inverse. True or false?
 3. Both the natural power of a complex number z and the complex exponential of z have only one solution. True or false?
 4. How many fourth roots does the unity have? How many of them are real? How many real roots does -1 have?
 5. Consider a polynomial of degree 4. How many real roots can it have? And how many complex roots?