2. History

In the 16th century, Italian mathematicians were in a war to discover the quadratic equations solving formula. In 1547, Cardano Girolamo published his results. In reality, independently from each other Del Ferro Scipione, Fontana Nicolo and Tartaglia discovered the formula first. Cardano got the formula from Tartaglia, promising strict secrecy. Bombelli Rafael used these formulas brilliantly, and the symbol. Later on, Euler Leonhard continued with these calculations.

4. Markings

We can visualize complex numbers with points and the points vectors on a plane.

The plane we use to represent the complex numbers is often referred to as the complex number plane, or in other words, the Gauss-like number plane. Because we can write down these plane points (and the vectors of these) with a pair of real numbers, the complex numbers can be also written by the following pair of „numbers”: z = (a, b).

We call a + bi formulas and expressions complex numbers, where a and b are both real numbers.

The real part of z = a + bi is Re(z) = a. The imaginary part of z = a + bi is Im(z) = b.

Questions

1. With what letter do we represent complex numbers?
2. Z
3. Q
4. R
5. C
6. Why do we need complex numbers?
7. So that we can always subtract.
8. So that they can give the result of the division.
9. So that we can square root the negative numbers.
10. So that we can use the binary system.
11. Which matematican did not compete in discovering the quadratic equations solving formula?
12. Enrico Betti
13. Scipione del Ferro
14. Nicolo Fontana, Tartaglia
15. Girolamo Cardano
16. The term we use to express complex numbers
17. z = 0 + b
18. z = a + bi
19. z = ai + bi
20. z = (a + b)i
21. How do we call the plane that we represent the complex numbers on?
22. Gauss-like number plane
23. Neumann plane
24. Descartes-like plane
25. Cardano-like number plane
26. The sum of the following complex numbers z1 = a1 + b1i & z2 = a2 + b2i is:
27. a1 + a2 + b1 + b2
28. (a1 + b1) + (a2 + b2)i
29. (a1 + a2) + (b1 + b2)i
30. (a1 + a2) i + (b1 + b2)i
31. What do we not use the complex numbers for?
32. Combinatorics
33. Solving equations
34. Understanding geometry shapes and real functions
35. Quantum mechanics