Gobal example, from the ExSol package

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February 14, 2025

1 Introduction

In this text we explain how to solve second-order polynomial equations.

2 Solving second-order polynomial equations

The roots of the following equation

$$ax^2 + bx + c = 0 \tag{1}$$

can be determined as:

$$x_{1,2} = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \tag{2}$$

To make sure you master calculating the roots of second-order equation, please solve exercise 2-1.

Exercises

Exercise 2-1: Solve the following equation for $x \in C$, with C the set of complex numbers:

$$5x^2 - 3x = 5 \tag{3}$$

Exercise 2-2: Consider a 2-dimensional vector space equipped with a Euclidean distance function. Given a right-angled triangle, with the sides A and B adjacent to the right angle having lengths, 3 and 4, calculate the length of the hypotenuse, labeled C.

And now, we can come to the conclusion.

3 Conclusion

Solving second-order polynomial equations is very easy.