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ABOUT ANOTHER OPTIMAL SOLUTION TO THE QUADRATIC EQUATION

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Abstract:

This article presents scientific conclusions and the results of observational experiments on the dependence of a person's reading speed and learning abilities on personal characteristics and the characteristics of the educational environment.

Keywords

Quadratic equation, root of a quadratic equation, division by a reasonable number, given quadratic equation, mental observation, critical analysis.

Introduction

One of the most pressing issues facing mathematics today is quickly and accurately finding answers to tasks related to solving quadratic equations and a number of real-world problems based on them.

Solving engineering problems, and finding the most optimal way to solve them, is a problem that has been sought for four thousand years.

However, the results of several studies conducted to date on solutions to quadratic equations have not been widely used. Why? To be more precise, they lack optimality. There is no perfection.

Please allow us to express our desire to introduce you to the following method we propose. We will try to explain this solution method using a specific example.

Example:

$$2x^2 + 5x - 18 = 0$$

We write the rules and procedures for analytical solutions as follows:

$$ax^2 + bx + c = 0$$

$$ax^2 + nx - \overbrace{kx} + c = 0$$

Here, ***"n"*** and ***"k" are the components of*** the coefficient ***"b". Each of them*** is a coefficient of the quadratic equation, respectively. It is always required that ***"a"*** and ***"c"*** increase proportionally uniformly.

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$$\pm ax^2 \pm \frac{n}{a}x \pm \frac{c}{k}x \pm c = 0$$

$x_1 = -\frac{n}{a} = -\frac{c}{k}$ and $x2 = -\frac{k}{a} = -\frac{c}{n}$

Now let's solve the above example based on the rules of the optimal method:
Let's first rewrite the example:

$2x^2 + 5x - 18 = 0$

$2x2 - 4\ times + 9x - 18 = 0$

$$2x^2 + \frac{4}{2}x - \frac{18}{9}x - 18 = 0$$

$x_1 = -\frac{-4}{2} = -\frac{-18}{9}$ ga teng va $x_2 = -\frac{9}{2} = -\frac{-18}{-4}$

$x_1 = 2$ ga teng va $x_2 = -\frac{9}{2}$

Demak, misolnining jaavobini topdie, javobi $x_1 = 2$ va $x_2 = -\frac{9}{2}$ ga tenge.

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