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USING ANTI-SYMMETRICAL PONYMS IN SOLVING ELEMENTARY MATHEMATICS PROBLEMS

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ANNOTATSION

The article discusses symmetric polynomials in the polynomial theory section of the algebra and number theory course, a class of polynomials very close to symmetric polynomials - antisymmetric polynomials and some of their applications to elementary mathematics.

Keywords: symmetric polynomials, antisymmetric polynomials, fundamental theorem of antisymmetric polynomials, antisymmetric polynomial, discriminant of a polynomial, proof of inequalities of antisymmetric polynomials, proof of identities, proof of squares, applications to waiting

INTRODUCTION

In the theory section of the course of algebra and numerical theory, the main theory of symmetrical multiples and many of its applications is studied by symmetrical multiples, i.e. when we replace the two optional variables.

And in this article, there's a lot of learning, a lot of people who are very close to symmetrical multiples — antisymmetric ko’phadlar to introduce them to in elementary mathematics, and we're going to look at the applications.

Antisymmetric multiples are said to be multiples whose gesture changes when we replace the two optional variables.

First of all, let's take a look at the antisymmetric multiples with two variables. Examples of such multiples include x - y, x3 - y3, x4y - xy4 multipliers. In fact, if, for example, we replace the seats of x and y variables in x3 - y3 multiplication, then multihad, y3 - x3 will go to the view. y3 - x3 = -(x3 - y3), because x3 - y3 is a multi-symmetrical multiplication. Likewise, x - y and x y - xy4 can be proven that multiples are also antisymmetric multiples.

Examples of three-variable antisymmetric multiples (x – y) (x –z) (y –z) can be obtained. If we replace the seats of x and y variables in this multiplication, then (y - x)(y - z)= - (x - y)(x - z)(y - z) will appear. Similarly, when replacing other variables, the cue's gesture changes. We present the following important properties, which are appropriate for antisymmetric multiples: the square of an antisymmetric multi-boundary is symmetrical.

In fact, when we replace the two current variables, the antisymmetric multiplication changes the gesture. But the mark of the square of the multitune does not change. Therefore, when we replace the two current variables in the square of the anymmetric multiples, the multiplication does not change, i.e. the square of the antisymmetric multiples is a symmetrical multiplication.

Not only is the square of antisymmetric multiples, but the pronunciation of two optional antisymmetric multiples is a symmetrical multiple. Because when we replace the two optional variables, both multiples change the gesture, so the gesture of the usun multiplication does not change. The resulting embryo was allowed to develop in nutrients and then inserted into her womb, where it implanted. This is because when we replace the two optional variables, one

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multiplication gesture is replaced, and the other does not change, so the gesture of the multiplication changes. Let's figure out how the optional anymmetric multiple is structured. The aforementioned sentence shows the method of building an anti-symmetrical multiple. We multiply an antisymmetric multiple to the current symmetrical multiple, and an antisymmetric multiple is formed at an increase. Natural question arises. Is it possible to find an antisymmetric multiple that can be multiplicated to all symmetrical multiples, resulting in the formation of all antisymmetric multiples. (given the number of variables). This question will be answered as follows. Let's start with two variable multiples. In this case, the antisymmetry being sought consists of multiple x-y. In other words, the following theory is appropriate.

We present the main theory and lemma about antisymmetric multiples.

Theory. Optional two variable f(x,y) antisymmetric multiple

f(x,y)=(x-y)g(x, y) appears, in which case, g(x,y) - x and y are symmetrically multiplicated of variables.

Lemma. If f (x, y) is an antisymmetric multi-surface, then f (x, x) = 0 .

Or in other words, x and when the y variables overlap the antisymmetric multiplication becomes zero. Antisymmetric polygamy is found in many fields of mathematics. To illustrate: Imagine that a man who is walking on a finds that it becomes two diverging paths. From this we will consider some of the applications to elementary mathematics, especially those applied to multipliers. The basic theory of antisymmetric multiples allows elemantary algebra to significantly simplify solving a number of issues. x, y, z optional antisymmetric multiple with three variables $T(x,y,z)=(x-y)(x-z)(y-z)$, optional because it's divided into multiples $f(x,y,z)$ antisymmetry ko'phadni $f(x,y,z)=T(x,y,z)g(x,y,z)$ is possible to allocate to multipliers. Here $g(x,y,z)$ symmetrical multi-had. In turn $g(x,y,z)$ symmetrical multiples can also sometimes be divided into multipliers. It should be noted that $g(x,y,z)=\frac{f(x,y,z)}{T(x,y,z)}$ to find the ratio $f(x,y,z)$ antisymmetry ko'phadni $T(x,y,z)$ It is not intended to be in the form of a pillar to a cubic multi-end. The private values method is relatively convenient. Exactly $f(x,y,z)$ if the antisymmetric multi-level has a third degree, $\frac{f(x,y,z)}{T(x,y,z)}$ The ratio will be the zero-level multi-level multiple, i.e. the number. $f(x,y,z)=kT(x,y,z)$ the relationship will be the same, i.e. (x,y,z) will be appropriate at the optional values of the larynks. So that k to the last equation to determine the number (x,y,z) it's enough to give some kind of (different) final values, k the number will be determined. If $f(x,y,z)$ if the antisymmetric multi-level is a fourth-tier same-sex multiple, then $\frac{f(x,y,z)}{T(x,y,z)}$ the ratio will be a first-class same-sex symmetrical multi-phase, i.e. $f(x,y,z)=T(x,y,z)k\sigma_1$ (k -son) and here k to determine the unknown coefficient x,y,z it's enough to give the larynks some final values. Similarly, if $f(x,y,z)$ If there's a 5-degree antisymmetric multiple, then $\frac{f(x,y,z)}{T(x,y,z)}$ the ratio is a symmetrical multiple of the second tier, i.e.

$k\sigma_1^2 + l\sigma_2$ it's going to look like here k and l unknown coefficients of laryngeal. $f(x,y,z) = T(x,y,z)(k\sigma_1^2 + l\sigma_2)$ k and l to find two unknowns, x, y, z we need to give the larynks some number of values twice. If $f(x,y,z)$ If there's a 6-degree antisymmetric multiple, then $f(x,y,z) = T(x,y,z)(k\sigma_1^3 + l\sigma_1\sigma_2 + m\sigma_3)$, So so.

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