OXIRGI RAQAMI 1, 2 VA 3 BO'LGAN SONLARNING KVADRATINI HISOBLASH FORMULALARI

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ANNOTATSIYA

Ushbu maqolada umumiy o'rta ta'lim maktabi o'quvchilari hamda Oliy ta'lim muassasalari talabalari uchun oxirgi raqami 1, 2 va 3 raqamlaridan iborat bo'lgan sonlarning kvadratini hisoblovchi umumiy formula keltirilgan.

Kalit so'zlar: Sonlarning kvadratini hisoblovchi umumiy formula.

FORMULAS FOR CALCULATING THE SQUARE OF NUMBERS WITH THE LAST NUMBER 1, 2 AND 3

ABSTRACT

This article provides a formula for calculating the squares of numbers ending in 1, 2 and 3, which can be used by students of secondary schools, as well as students of higher educational institutions.

Keywords: General formula for calculating the square of numbers.

Umumiy o'rta ta'lim maktab Matematika fani kursidan ma'lumki, oxirgi raqami 5 bilan tugaydigan har qanday sonning kvadratini hisoblash formulasi mavjud.

$$\overline{a5} \Box \overline{a5} = \overline{(a+1)25} \qquad (1)$$

Ammo, oxirgi raqami 1, 2 va 3 raqamlari bilan tugaydigan har qanday sonning kvadratini hisoblashning umumiy formulasi ustida uncha ko'p ishlar amalga oshirilmaganligi barchamizga ayondir. Ushbu masalaga javobni misollar orqali qidirish zarur deb hisoblayman.

Oxirgi raqami 1, 2 va 3 raqamlari bilan tugaydigan har qanday sonni o'ziga o'zini ko'paytirish natijasida hosil bo'ladigan sonlarni topishning umumiy formulasi:

$$\overline{an} \Box \overline{an} = a^2 \Box (2 \Box n \Box a)n^2 \qquad (2)$$

Misol uchun: oxirgi raqami $\overline{an} \Box \overline{an} = a^2 \Box (2 \Box n \Box a)n^2$ 1 ning kvadratini yuqori keltirilgan formula orqali hisoblaymiz. Bunda, a=0 ekanligi ma'lum.

$a = 0$

$1 \cdot 1 = 1$

$a = 0$

$0 \cdot (2 \cdot 0 \cdot 1)1 = (0)(0)1 = 1$

O'nlar sinfini misol sifatida tekshirsak:

$a = 5$

$51 \cdot 51 = 2601$

$a = 5$

$5^2 \cdot (2 \cdot 5 \cdot 1)1 = (25)(10)1 = (25+1)01 = 2601$

Yuzlar sinfini tekshirsak:

$a = 18$

$181 \cdot 181 = 34596$

$a = 18$

$18^2 \cdot (18 \cdot 2 \cdot 1)1 = (324)(36)1 = (324+3)61 = 32761$

Minglar sinfini tekshirsak:

$a = 865$

$8651 \cdot 8651 = 74839801$

$a = 865$

$865^2 \cdot (2 \cdot 865 \cdot 1)1 = (748225)(1730)1 = (748225+173)01 = 74839801$

O'n minglar sinfini tekshirsak:

$a = 2579$

$25791 \cdot 25791 = 665175681$

$a = 2579$

$2579^2 \cdot (2579 \cdot 2 \cdot 1)1 = (6651241)(5158)1 =$

$= (6651241+515)81 = 665175681$

Yuz minglar sinfini tekshirsak:

$a = 25198$

$251981 \cdot 251981 = 63496944196$

$a = 25198$

$25198^2 \cdot (25198 \cdot 2 \cdot 1)1 = (634939204)(50396)1 =$

$= (634939204+5039)61 = 63494424361$

Misol uchun: birlar xonasidagi 2 ning kvadratini yuqori keltirilgan formula orqali hisoblaymiz. Bunda, a=0 ekanligi ma'lum.

$$a = 0$$
$$2 \square 2 = 4$$
$$a = 0$$
$$0^2 \left(2 \square 2 \square 0\right) \square 2^2 = (0)(0)4 = 4$$

O'nlar sinfini misol sifatida tekshirsak:

$$a = 8$$
$$82 \square 82 = 6724$$
$$a = 8$$
$$8^2 \square (8 \square 2 \square 2)2^2 = (64)(32)4 = (64 + 3)24 = 6724$$

Yuzlar sinfini tekshirsak:

$$a = 26$$
$$262 \square 262 = 68644$$
$$a = 26$$
$$26^2 \square (26 \square 2 \square 2)4 = (676)(104)4 = (676 + 10)44 = 68644$$

Minglar sinfini tekshirsak:

$$a = 955$$
$$9552 \square 9552 = 91240704$$
$$a = 955$$
$$955^2 (955 \square 2 \square 2)2^2 = (912025)(3820)4 =$$
$$= (912025 + 382)04 = 91240704$$

O'n minglar sinfini tekshirsak:

$$a = 5458$$
$$54582 \square 54582 = 2979194724$$
$$a = 5458$$
$$5458^2 (5458 \square 2 \square 2)2^2 = (29789764)(21832)4 =$$
$$= (29789764 + 2183)24 = 2979194724$$

Yuz minglar sinfini tekshirsak:

$a = 77777$

$777777 \cdot 777777 = 604937061729$

$a = 77777$

$77777 \cdot (77777 + 1)4 \cdot (77777 + 1)9 = (6049339506)(311112)9 =$

$= (6049339506 + 31111)29 = 604965061729$

Misol uchun: birlar xonasidagi 3 ning kvadratini yuqori keltirilgan formula orqali hisoblaymiz. Bunda, a=0 ekanligi ma'lum.

$a = 0$

$3 \cdot 3 = 9$

$a = 0$

$0^2 (0 \cdot 2 \cdot 3)3^2 = (0)(0)9 = 9$

O'nlar sinfini misol sifatida tekshirsak:

$a = 5$

$53 \cdot 53 = 2809$

$a = 5$

$5^2 (2 \cdot 3 \cdot 5)3^2 = (25)(30)9 = (25 + 3)09 = 2809$

Yuzlar sinfini tekshirsak:

$a = 158$

$1583 \cdot 1583 = 2505889$

$a = 158$

$158^2 (158 \cdot 2 \cdot 3)3^2 = (24964)(948)9 = (24964 + 94)89 = 2505889$

Minglar sinfini tekshirsak:

$a = 598$

$5983 \cdot 5983 = 35796289$

$a = 598$

$598^2 (598 \cdot 2 \cdot 3)3^2 = (357604)(3588)9 =$

$= (357604 + 358)89 = 35796289$

O'n minglar sinfini tekshirsak:

$a = 9258$

$92582 \square 92582 = 8572537744$

$a = 9258$

$9258^2 (2 \square 9258 \square 3)9 = (83858964)(55548)9 =$

$= (83858964 + 5554)89 = 8386421889$

Yuz minglar sinfini tekshirsak:

$a = 33333$

$333333 \square 333333 = 111110888889$

$a = 33333$

$33333^2 (2 \square 33333 \square 3)9 = (1111088889)(199998)9 =$

$= \left(1111088889 + 19999\right)89 = 111110888889$

Yuqorida olingan natijalardan ushbu hulosaga kelshimiz mumkin:

1) Oxirgi raqami 1, 2 va 3 bilan tugaydigan har qanday sonning kvadratini hisoblash uchun:

$\overline{an} \, \square \, \overline{an} = a^2 \square (2 \square n \square a)n^2$

formulalaridan foydalanishimiz mumkin.

FOYDALANILGAN ADABIYOTLAR RO'YXATI: (REFERENCES)
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