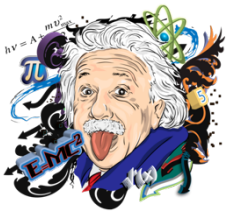

OCHIQ MATEMATIKA OLIMPIADASI

Mezon Inspiring School

7 sinf

29 mart 2025

1. Tenglama ildizining qiymati 3 ga teng bo‘lgandagi ***p*** ning qiymatini toping: $\frac{2p+21}{18-3y} = 6$

   Yechim:

   Javob: _____

2. Agar $\begin{cases} x^3 - y^3 = 7 \\ x - y = 1 \end{cases}$ bo’lsa, *y – x ning qiymatini toping.*

   Yechim:

   Javob: _____

3. x ning teskari qiymati x ning 55% ga teng bo‘lsa, x ning 110% i nimaga teng?.

   Yechim:

   Javob: _____

4. Birinchi dvigatel suv omborini 2 soat ichida to'ldirishi mumkin, ikkinchi dvigatel esa 7 soatda. Ikkala dvigatel birgalikda suv omborini qancha vaqt mobaynida to‘ldirishi mumkin?

Yechim:

Javob:_____

5. Ifodani soddalashtiring: $\frac{x^6+a^2x^3y}{x^6-a^4y^2}$

Yechim:

Javob:_____

6. Sayyoralar o'rtasida quyidagi yo'nalishlar bo'yicha kosmik xabar yuborilgan: Z-K, P-V, Z-P, P-K, K-V, U-M, M-S, S-Y, Y-M, M-U. Z dan M ga borish mumkinmi? Echimini ko’rsating

Yechim:

Javob:_____

7. Tenglamaning qiymatini toping. $\sqrt{10\sqrt{10}} = 100^x$

Yechim:

Javob:_____

8. ABC teng tomonli uchburchagining AB, BC, CA tomonlarida mos ravishda D, E, F nuqtalar belgilangan. Agar AD=BE=CF bo'lsa, DEF uchburchakning turini aniqlang.
Yechim:

Javob:_____

9. Agar x -9.3 va -15.1 oralig'ida eng kichik butun son, y = 23: x bo'lsa, quyidagi ifodani hisoblang:
$8\frac{16}{23}x^2y^3 - 0{,}02x^3y^2$.
Yechim:

Javob:_____

10. Hisoblang $\left(\frac{3}{(\sqrt{4}+1)(\sqrt[4]{4}+1)(\sqrt[8]{4}+1)(\sqrt[16]{4}+1)(\sqrt[32]{4}+1)}+1\right)^{64}$

Yechim:

Javob:_____

11. Uchburchak ABC berilgan, AB=BC, BH balandlik hamda ∠ABC = 90° ekanligi ma'lum. P nuqta AC tomonni mos ravishda AP va CP tomonlarga bo'ladi, bunda AP=AB. Q nuqta BC tomonni mos ravishda BQ va CQ tomonlarga bo'ladi, bunda BQ=BH. PQ va AB to'g'ri chiziqlarining parallel ekanligini isbotlang.

Yechim:

Javob:_____

12. Hisoblang: $\sqrt[7]{5\sqrt[7]{5\sqrt[7]{5\ldots}}}$

Yechim:

Javob:_____

13. Berilgan tenglamaning ildizi n bo‘lsa, tenglamani yeching: $(n-1)!+1=n^2$

Yechim:

Javob:_____