

Ассимби

$$1. (2x-5)^2 - (-x-1)(-x+1) - (2x-4)(3x-2)$$

$$2. A = \frac{[(x^2)^3 : x^{-2}]^2}{(x^{-3})^2 : x^4}$$

$$3. A = \frac{4x^2-1}{x^2-2x+1} : \frac{4x^3-2x}{x^2-6x+5}$$

$$4. \textcircled{a} \text{ Nдо } \left(a + \frac{1}{a}\right)^2 - \left(a - \frac{1}{a}\right)^2 = 4$$

$$\textcircled{B} . \left(\frac{999}{1000} + \frac{1000}{999}\right)^2 - \left(\frac{999}{1000} - \frac{1000}{999}\right)^2$$

$$5. \text{ На } \mathbb{Z}_6 \text{ и } \in \{1, 5, 5, 4\}$$

$$(3x-1)^3 + (x-2)^3 + (3-4x)^3 = 0$$

Вопрос: Euler: $a^3 + b^3 + c^3 = 3abc$ or $a+b+c=0$

$$\begin{aligned}
 1. \quad & (2x-5)^2 - (-x-1)(-x+1) - (2x-4)(3x-2) = \\
 & = 4x^2 - 20x + 25 - (x^2 - 1) - (6x^2 - 4x - 12x + 8) \\
 & = 4x^2 - 20x + 25 - x^2 + 1 - (6x^2 - 16x + 8) \\
 & = 3x^2 - 20x + 26 - 6x^2 + 16x - 8 = \\
 & = -3x^2 - 4x + 18
 \end{aligned}$$

$$2. \quad A = \frac{[(x^2)^3 : x^{-2}]^2}{(x^{-3})^2 : x^4}$$

$$A = \frac{(x^6 : x^{-2})^2}{x^{-6} : x^4} = \frac{(x^8)^2}{x^{-10}} = \frac{x^{16}}{x^{-10}} = x^{26}$$

$$\begin{aligned}
 3. \quad & A = \frac{4x^2 - 1}{x^2 - 2x + 1} : \frac{4x^3 - 2x^2}{x^2 - 6x + 5} = \\
 & = \frac{(2x-1)(2x+1)}{(x-1)^2} : \frac{2x^2(2x-1)}{(x-2)(x-3)} = \\
 & = \frac{\cancel{(2x-1)}(2x+1)}{(x-1)^2} \cdot \frac{(x-2)(x-3)}{2x^2 \cancel{(2x-1)}} =
 \end{aligned}$$

$$4. \textcircled{a} \left(a + \frac{1}{a}\right)^2 - \left(a - \frac{1}{a}\right)^2 = 4$$

$$a^2 + 2 \cdot a \cdot \frac{1}{a} + \left(\frac{1}{a}\right)^2 - \left(a^2 - 2 \cdot a \cdot \frac{1}{a} + \left(\frac{1}{a}\right)^2\right) = 4$$

$$a^2 + 2 + \frac{1}{a^2} - \left(a^2 - 2 + \frac{1}{a^2}\right) = 4$$

$$\cancel{a^2} + 2 + \cancel{\frac{1}{a^2}} - \cancel{a^2} + 2 - \cancel{\frac{1}{a^2}} = 4$$

$$4 = 4$$

$$\textcircled{B} \left(\frac{999}{1000} + \frac{1000}{999}\right)^2 - \left(\frac{999}{1000} - \frac{1000}{999}\right)^2$$

$$= 4.$$

5. $(3x-1)^3 + (x-2)^3 + (3-4x)^3 = 0$

$\rightarrow 3x-1 + x-2 + 3-4x =$

$= 0$

$\rightarrow 3(3x-1)(x-2)(3-4x) = 0$

$3x-1=0 \quad \vee \quad x-2=0 \quad \vee \quad 3-4x=0$

$x = \frac{1}{3}$

$x = 2$

$x = \frac{3}{4}$

$a^3 + b^3 + c^3 = 3abc$

MONO AN $a+b+c=0$