

Задача N1

Алгоритм 9кл.
(8)

T. 60. $a = 3^{-1} \cdot 9 + 12 = \frac{1}{3} \cdot 9 + 12 = 15$
пряморопорозное $\boxed{15}$

T. 59 $a = 1,5 - 4 \cdot \frac{\sqrt{25}}{4} = 1,5 - 5 = -3,5$
 $b = 3 - \frac{1}{2} = 2,5$ $a + b = -3,5 + 2,5 = \boxed{-1}$

T. 58 $a = 3 \cdot (-2) + 5 = -6 + 5 = -1$
 $b = \sqrt{3^2 - 5} = \sqrt{9 - 5} = \sqrt{4} = 2$
 $(a + b)^{2022} = (-1 + 2)^{2022} = 1^{2022} = \boxed{1}$

T. 57 $a = -7 + 3 \cdot (-2)^2 = -7 + 3 \cdot 4 = -7 + 12 = 5$
 $b = \frac{-18}{3} + 2022^0 = -6 + 1 = -5$
 $\frac{a}{b} = \frac{5}{-5} = \boxed{-1}$

T. 56 $a = (4 - \frac{6}{3} \cdot \frac{5}{3}) \cdot 2 = (4 - 2) \cdot 2 = 5 \cdot 2 = 10$
 $b = (1 - \frac{1}{2})^2 = (\frac{1}{2})^2 = \frac{1}{4}$

$a : b = 10 : \frac{1}{4} = 10 \cdot 4 = \boxed{40}$

T. 55 $a = 0,04 + (0,6)^2 - \frac{4}{5} = 0,04 + 0,36 - 1,4 = 0,4 - 1,4 = -1$
 $2022^a = 2022^{-1} = \boxed{\frac{1}{2022}}$

T. 54 $a = \frac{2}{3} \cdot (-\frac{4}{3})^{-2} + \frac{5}{8} = \frac{2}{3} \cdot (-\frac{3}{4})^2 + \frac{5}{8} = \frac{2}{3} \cdot \frac{9}{16} + \frac{5}{8} =$
 $= \frac{3}{8} + \frac{5}{8} = \frac{8}{8} = 1$
 $a^{2022} = 1^{2022} = \boxed{1}$

T. 53 $a = (-4)^2 : 2 = 16 : 2 = 8$
 $b = \frac{15}{2} \cdot \frac{4}{5} = 2$
 $\frac{a + b}{2} = \frac{8 + 2}{2} = \frac{10}{2} = \boxed{5}$

$$T. 52 \quad a = (14 - \frac{14}{5} \cdot \frac{4}{1}) : 4 = (14 - 2) : 4 = 12 : 4 = 3$$

$$b = (\frac{1}{3})^{-1} = 3 \quad \frac{a}{b} = \frac{3}{3} = \boxed{1}$$

T. 54

$$a = (-2)^2 \cdot 5 + (\sqrt{5})^2 = 4 \cdot 5 + 5 = 25$$

$$\frac{3}{5} \text{ of } 25 = \frac{3}{5} \cdot 25 = \boxed{15}$$

$$T. 50 \quad a = (\frac{1}{2} - \frac{4}{3})^2 : \frac{2}{9} = (\frac{6-4}{3})^2 \cdot \frac{9}{2} = (\frac{2}{3})^2 \cdot \frac{9}{2} =$$

$$= \frac{24}{9} \cdot \frac{9}{2} = 2$$

ответное глас 2 \Rightarrow $\boxed{\frac{1}{2}}$

$$T. 49 \quad a = (-16) : (-4) = 4$$

$$b = (-\frac{8}{4}) \cdot (-\frac{8}{3}) = 6$$

$$\frac{a+b}{2} = \frac{4+6}{2} = \boxed{5}$$

$$T. 48 \quad a = \sqrt{5^2 - 4^2} = \sqrt{25 - 16} = \sqrt{9} = 3$$

$$a^{-2} = 3^{-2} = \frac{1}{3^2} = \boxed{\frac{1}{9}}$$

$$T. 47 \quad a = 9 \cdot 25 : 4 = \frac{1}{4} \cdot \frac{4}{3} = \frac{1}{3}$$

$$\frac{6}{5} \text{ of } \frac{1}{3} = \frac{26}{5} \cdot \frac{1}{3} = \boxed{\frac{2}{5}}$$

$$T. 46 \quad a = \frac{12}{35} : (-\frac{4}{7}) = -\frac{12}{35} \cdot \frac{7}{4} = -\frac{3}{5}$$

$$b = (-\frac{8}{35}) \cdot \frac{49}{12} = -\frac{4}{20}$$

$$\frac{a}{b} = -\frac{3}{5} : (-\frac{1}{20}) = \frac{3}{5} \cdot \frac{20}{1} = \boxed{\frac{12}{7}}$$

$$T. 45 \quad a = -8 : 2 + 4 = -4 + 4 = 3$$

$$b = \frac{3}{8} : \frac{5}{4} = \frac{3}{8} \cdot \frac{4}{5} = \frac{3}{10}$$

$$a : b = 3 : \frac{3}{10} = 3 \cdot \frac{10}{3} = \boxed{10}$$

$$\begin{aligned} \text{T. 44} \quad a &= (-3) \cdot (-2) + 4 \cdot (-2) = 6 - 8 = -2 \\ b &= 3 \cdot (-2)^3 = 3 \cdot (-8) = -24 \\ \frac{b}{a} &= \frac{-24}{-2} = \boxed{12} \end{aligned}$$

$$\begin{aligned} \text{T. 43.} \quad a &= \left(8 - \frac{18^2}{2} \cdot \frac{4^4}{9}\right) \cdot 2 = (8 - 4) \cdot 2 = 8 \\ &\text{обратное } a \text{ } 8 \text{ это } \boxed{\frac{1}{8}} \end{aligned}$$

$$\text{T. 42} \quad a = \frac{1}{4} + \frac{1}{4} \cdot 2 = \frac{1}{4} + \frac{2}{4} = \frac{3}{4}$$

$$2a + 2022^0 = 2 \cdot \frac{3}{4} + 1 = 1\frac{1}{2} + 1 = \boxed{2\frac{1}{2}} \quad \boxed{2,5}$$

$$\text{T. 41} \quad a = 3 - 2\sqrt{9} = 3 - 2 \cdot 3 = 3 - 6 = -3$$

$$b = 2 \cdot \left(-\frac{3}{2}\right) = -3 \quad a \equiv b$$

$$\text{T. 40} \quad a = -8 + 2 \cdot (-5) = -8 - 10 = -18$$

$$b = \frac{24^2}{7} \cdot \frac{14^2}{8} = 4$$

$$2a + 5b = 2 \cdot (-18) + 5 \cdot 4 = -36 + 20 = \boxed{-16}$$

$$\text{T. 39} \quad a = |2^3 - 14| = |8 - 14| = |-6| = 6$$

$$b = \frac{3}{4} \cdot \frac{9}{16} = \frac{18}{4} \cdot \frac{16^4}{8^3} = \frac{4}{3}$$

$$a \cdot b = 6 \cdot \frac{4}{3} = \boxed{8}$$

$$\text{T. 38.} \quad a = 10 \cdot 7 \cdot 3 = 43$$

$$b = 3^2 \cdot 2^3 = 9 \cdot 8 = 72$$

$$a - b = 43 - 72 = \boxed{-29}$$

$$\text{T. 37} \quad 4,8035 \cdot 10^3 - 42,5 = 4803,5 - 42,5 = \boxed{4761}$$

$$\text{T. 36} \quad a = 0,173 \cdot 10^3 = 173$$

$$b = 475 : 25 = 19$$

$$a - b = 173 - 19 = \boxed{154}$$

$$\text{T. 35} \quad a = \frac{1}{2^3} - \left(-\frac{1}{2}\right)^2 = \frac{1}{8} - \frac{1}{4} = -\frac{1}{8}$$

$$b = -3^2 + (-1)^0 = -9 + 1 = -8$$

$$a \cdot b = -\frac{1}{8} \cdot (-8) = \boxed{1}$$

T. 34

$$a = \sqrt{\frac{9}{4} + \frac{1}{4}} = \sqrt{\frac{9}{4}} = \frac{3}{2} = 1,5$$

$$b = \sqrt{2 - \frac{1}{25}} = \sqrt{\frac{50-1}{25}} = \sqrt{\frac{49}{25}} = \frac{7}{5} = 1,4$$

$$a \sqrt{7} b$$

T. 33.

$$a = \frac{2}{3} : \frac{4}{9} = \frac{2}{3} \cdot \frac{9}{4} = \frac{3}{2}$$

$$a - b = \boxed{0}$$

$$b = \sqrt{\frac{9}{4}} = \frac{3}{2}$$

T. 32

$$a = 306 : 3 - 2 = 102 - 2 = 100$$

$$b = (-5)^2 = 25$$

$$a : b = 100 : 25 = \boxed{4}$$

$$T. 31 \quad a = \left(-\frac{7}{8}\right) : \left(-\frac{7}{8}\right) = \frac{1}{8} \cdot \frac{8}{7} = \frac{1}{8}$$

$$b = (-2)^{-3} = \frac{1}{(-2)^3} = -\frac{1}{8}$$

$$a + b = \boxed{0}$$

T. 30.

$$a = 0,25 : 0,5 + 3,5 = 0,5 : 0,5 + 3,5 = 0,5 + 3,5 = 4$$

$$a : \frac{1}{2} = 4 : \frac{1}{2} = \boxed{8}$$

$$T. 29 \quad a = -2 + 2 \cdot (-5) = -2 - 10 = -12$$

$$b = (-4) : 2 = -2$$

$$a - b = -12 - (-2) = -12 + 2 = -10$$

$$T. 28 \quad a = \frac{13}{5} \cdot \frac{10}{21} = \frac{26}{7}$$

$$b = \sqrt{\frac{16}{49}} = \frac{4}{7}$$

$$a + b = \frac{26}{7} + \frac{4}{7} = \boxed{\frac{30}{7}}$$

$$T. 27 \quad a = 10 \cdot (-2,3) = -23$$

$$b = \left(\frac{1}{4}\right)^2 = 4^2 = 16$$

$$a + b = -23 + 16 = \boxed{-7}$$