

Энциский, $x; y, 0362$.

15-разм.м.

1.	C_{13}^{11}
2.	C_{244}^{54}
3.	$13 \cdot \frac{13!}{3!}$
4.	3838
5.	164.
6.	3524671
7.	$N=36; 34. : C_{38}^4 - 5C_{23}^4 + C_8^4 \cdot C_5^2$
8.	$\frac{151}{253}$

$$1. C_{15}^{11}$$

$$2. x_1 + \dots + x_{55} = 25 \quad x_i \geq -3$$

$$25 + 4 \cdot 55 = 245$$

$$C_{244}^{54}$$

$$3. 73 \cdot 72 \cdot 71 \cdot 70 \cdot 69 \cdot 68 \cdot 67 \cdot 66 \cdot 65 \cdot 64 = 13 \cdot \frac{73!}{3!}$$

$$\text{Answer: } 13 \cdot \frac{73!}{3!}$$

$$4. \text{b c a c b a b a}$$

$$12021010_3 = 3837_{10}$$

$$\text{Answer: } 3838$$

$$5. 167$$

$$\{8\} - 28$$

$$\{5\} - 4$$

$$\{64\} - 47$$

$$\{40\} - 2$$

$$\{320\} - 7$$

$$\{5\} \vee \{64\}$$

$$167 - 4 + 1 = 164$$

$$6, 117834 - 1 = 7833$$

$$2) 1833 = 916 \cdot 2 + 1$$

$$916 = 305 \cdot 3 + 1$$

$$305 = 76 \cdot 4 + 1$$

$$76 = 15 \cdot 5 + 1$$

$$15 = 2 \cdot 6 + 3$$

$$2 = 0 \cdot 7 + 2$$

$$2 \ 3 \ 7 \ 1 \ 1 \ 1 \ 0$$

$$\underline{3 \ 5 \ 2 \ 4 \ 6 \ 7 \ 1}$$

$$8. \ 1 - \frac{18}{24} \cdot \frac{17}{23} \cdot \frac{16}{22} = \frac{151}{253}$$

$$7. \ I \ x_1, x_2, x_3, x_4, x_5 \quad x_i \in [0; 14]$$

$$x_1 + x_2 + x_3 = x_4 + x_5 + 6$$

$$1) \begin{cases} x_i = \alpha_i, & i \leq 3 \\ x_i = 14 - \alpha_i, & i > 3 \end{cases}$$

$$\alpha_1 + \alpha_2 + \alpha_3 = 14 - \alpha_4 + 14 - \alpha_5 + 6$$

$$\alpha_1 + \alpha_2 + \alpha_3 + \alpha_4 + \alpha_5 = 34. \quad N = 34$$

$$2) \begin{cases} x_i = 14 - \alpha_i, & i \leq 3 \\ x_i = \alpha_i, & i > 3 \end{cases}$$

$$14 - \alpha_1 + 14 - \alpha_2 + 14 - \alpha_3 = \alpha_4 + \alpha_5 + 6$$

$$a_1 + a_2 + a_3 + a_4 + a_5 = 36 \quad N = 36$$

$$\text{II} \quad a_1 + a_2 + a_3 + a_4 + a_5 = 34$$

$$\boxed{C_{38}^{34} - 5 \cdot C_{23}^{34} + C_{18}^{34} \cdot C_5^2}$$

$$\begin{cases} a_1 \geq 15 \\ a_2, \dots, a_5 \geq 0 \end{cases}$$

$$a_1' = a_1 - 15$$

$$a_1' + a_2 + a_3 + a_4 + a_5 = 19$$

$$\begin{cases} a_1, a_2 \geq 15 \\ a_3, a_4, a_5 \geq 0 \end{cases}$$

$$a_{1,2}' = a_{1,2} - 15$$

$$a_1' + a_2' + a_3 + a_4 + a_5 = 4$$

$$9.2) \quad x_1 + x_2 + x_3 + x_4 + x_5 = 34$$

$$(1 + \dots + x^{14})^5 = \dots + a_{34} x^{34} + \dots$$

$$S = 1 + \dots + x^{14}$$

$$xS = x + \dots + x^{15}$$

$$S = \frac{1 - x^{15}}{1 - x}$$

$$\left(\frac{1 - x^{15}}{1 - x} \right)^5 = (1 - x^{15})^5 \cdot (1 + x + \dots + x^{14})^5$$

$$= (1 - 5x^{15} + C_{50}^2 x^{30} + \dots) \cdot \left(C_{38}^{34} x^{34} + \dots + C_{23}^{34} x^{14} + \dots \right)$$

$$= (C_{38}^4 - 5C_{23}^4 + C_{85}^4) \cdot X^{34},$$