

5- maqnu Kombina torikaning arxivi
qoidalariga doir misollar
yeekish

2. 4. 16. Quyindagi berilgan sonlar
nechta ta'rif bo'lmaydigan ega?

17640 → NBS (natural / ~~biological~~ / some type of protein?)

17	6	4	0	2
8	8	2	0	2
4	4	1	0	2
2	2	0	5	3
	7	3	5	3
	2	4	5	5
		4	9	7
			7	7
			1	

$$12640 = 2^3 \cdot 3 \cdot 5 \cdot 7^2$$

$$N/B_S = (u+1)(u+1)(u+1) \dots$$

$$NBS(17640) = (3+1)(1+1)(1+1)(2+1) = 4 \cdot 2 \cdot 2 \cdot 3 = 24$$

6 - maqsad: Guruhlash, δ riy lask f \ddot{u} rish,
 δ riy almashtirish, formulalarini
 qollab usullar yechish

2.2. 16 Mars, Kibod javoqida tarodi-
 -y jar tibatda 45ta darstlik
 berilgan, bolib, ularning 9 ta
 52 ta filida, 6 ta, must filida.
 Vashqal iga 7 ta darstlik chiqdi.
 10 sari Obingon darstliklarining
 maycha o'zi 3 ta olini namu
 boladigan 1 qilib chiqish qil
 usulda taulab chiqish : mmmmm

Yechish

15 ta jamii sifat.

9 ta o'zbek

6 ta rus

Rus sifatlar 3 taidan namunali

$$C_6^2 \cdot C_9^5 + C_6^1 \cdot C_9^6 =$$

$$= \frac{6!}{2! (6-2)!} + \frac{5!}{5! \cdot 1!} + \frac{6!}{5!} \cdot \frac{9!}{3! \cdot 6!} =$$

$$= \frac{6 \cdot 5 \cdot 4 \cdot 3 \cdot 2 \cdot 1}{2 \cdot 1 \cdot 2 \cdot 3 \cdot 4} + \frac{6 \cdot 5 \cdot 4 \cdot 3 \cdot 2 \cdot 1}{1 \cdot 2 \cdot 3} =$$

$$= 6 \cdot 5 \cdot 7 \cdot 9 + 7 \cdot 8 \cdot 9 = 1890 + 5042 = 2394$$

javob. 2394 usulda tanib olish mumkin

2.3. Birinchi almashuvchilar Berilgan
toplarning tartiblashilgan
artilari.

2.3.6. Ikkinchi kurs talabolari 3-semesterda
10 xil fan o'qishadi. Dushanba kuni 4 ta
har xil fanlardan darsni uchta xil
usulda o'qish zarurligiga qo'yish mumkin?

Yechish.

$$A_n^k = k! \cdot C_n^k = \frac{n!}{(n-k)!}$$

$$A_{10}^4 = \frac{10!}{(10-4)!} = \frac{10!}{6!} = 7 \cdot 8 \cdot 9 \cdot 10 = 5040$$

javob: 5040 ta ushbu joylashtirish manvi

7- mavzu: Tassiriy qurilish, o'rnatish-tirish, o'rnatish-tirish formulalarini qo'llab misollar yechish

2.5.16 Quyidagi berilgan tengsizliklarning uchta boshqaruvchi ega?

$$10 < x + y + z \leq 14$$

$$x + y + z = 11 \quad x + y + z = 12 \quad x + y + z = 13 \quad x + y + z = 14$$

$$\begin{array}{r} x \ y \ z \\ 34 \ 1 \ 1 \ 9 \rightarrow 3 \\ 34 \ 1 \ 2 \ 8 \rightarrow 3 \\ 1 \ 3 \ 7 \rightarrow 3 \\ 1 \ 4 \ 6 \rightarrow 3 \\ 1 \ 5 \ 5 \rightarrow 3 \end{array}$$

$$5 \times 3 = 15$$

$$\begin{array}{r} 2 \ 2 \ 7 \rightarrow 3 \\ 2 \ 3 \ 6 \rightarrow 3 \\ 2 \ 4 \ 5 \rightarrow 3 \end{array}$$

$$3 \times 3 = 9$$

$$\begin{array}{r} 3 \ 3 \ 5 \\ 3 \ 4 \ 4 \end{array}$$

$$2 \times 3 = 6$$

$$15 + 9 + 6 = 30 \text{ ta ushbu}$$

javob: $30 \times 4 = 120$ ta ushbu yechilgan mavzu

$$x y z = 12$$

349
354
364
374
384

1 1 10
1 2 9
1 3 8
1 4 7
1 5 6

$$5 \times 3 = 15 - 19$$

2 2 8
2 3 7
2 4 6
2 5 5

$$4 \times 3 = 12 - 19$$

3349 12 ushlar

3 3 6
3 4 5

$$2 \times 3 = 6$$

$$x y z = 13$$

1 1 11
1 2 10
1 3 9
1 4 8
1 5 7
1 6 6

$$6 \times 3 = 18$$

$$x y z = 14$$

1 1 12
1 2 11
1 3 10
1 4 9
1 5 8
1 6 7

$$6 \times 3 = 18$$

2 2 9
2 3 8
2 4 7
2 5 6

$$4 \times 3 = 12$$

2 2 10
2 3 9
2 4 8
2 5 7
2 6 6

$$5 \times 3 = 15$$

3 3 8
3 4 7
3 5 6

$$3 \times 3 = 9$$

3 3 8
3 4 7
3 5 6

$$3 \times 3 = 9$$

$$18 + 12 + 9 = 39 \text{ ta}$$

$$42 \text{ ta}$$

javob 30 + 33 + 39 + 42 = 144 ta musbat
yechilimi mavjud

Tartiblashdan birinchi shartlar

2.4.16. 502-82ben alifboda
 itiriy chiqli harflar
 ketma-ketligida quyidagi berilgan
 502laragi harflardan nechtasi
 502 yasash mumkin?

PARALLEL;

1 ta P *

2 ta A

1 ta R

2 ta L

1 ta E

umumiy 7 ta harf bor.

$$C_7(1, 2, 1, 2, 1) = \frac{7!}{1! \cdot 2! \cdot 1! \cdot 2! \cdot 1!} = \frac{1 \cdot 2 \cdot 3 \cdot 4 \cdot 5 \cdot 6 \cdot 7}{2 \cdot 2} =$$

$$= 2 \cdot 3 \cdot 5 \cdot 6 \cdot 7 = 1260 \text{ ta 502 yasash mumkin}$$

2.6. Kombinatorik tenglamalar

2.6.16

$$P_{x+5} = P_2 \cdot P_3 \cdot P_5 \cdot A_{x+3}$$

$$(x+5)! = 2! \cdot 3! \cdot 5! \cdot (x+3)!$$

$$(x+5)! = 2! \cdot 3! \cdot 5! \cdot \frac{(x+3)!}{1!}$$

$$(x+5)! = 2(x+3)!$$

$$x+3 \quad x+2$$

$$A.S. = x+5 > 0 \\ x > -5$$

$$(x+5)(x+4) = 2$$

$$x^2 + 9x + 18 = 0$$

$$x_1 = -3 \quad x_2 = -12$$

javob: $x \neq -12$

8-mavzu: Bul algebrasi. Ikki ta mantiqiy amallar. Konjunksiya, disjunksiya, inkor, implikasiya, ekvivalentsiya amallari.

1. lb.

$$F(A, B, C) = A \& (\neg A \& B \vee C) \& (A \vee \neg C)$$

A	B	C	$\neg A$	$\neg A \& B$	$\neg A \& B \vee C$	$\neg C$	$A \vee \neg C$	$A \& a$	javob
0	0	0	1	0	0	1	1	0	0
0	0	1	1	0	1	0	0	0	0
0	1	0	1	1	1	1	1	0	0
0	1	1	1	1	1	0	0	0	0
1	0	0	0	0	0	1	1	0	0
1	0	1	0	0	1	0	1	1	1
1	1	0	0	0	0	1	1	0	0
1	1	1	0	0	1	0	1	1	1