



MUAMMOLI MASALA VA TOPSHIRIQLAR:

1. Quyidagi to'plamlar tengmi:

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| 1) $\{1, 3, 5\}$ va $\{1, 3, 5, 1\}$; | 4) $\{a, b, c\}$ va $\{\{a\}, \{b\}, \{c\}\}$ |
| 2) $\{11, 13\}$ va $\{\{11, 13\}\}$; | 5) $\{\{a, b\}, c\}$ va $\{a, \{b, c\}\}$ |
| 3) $\{a, b, c\}$ va $\{a, b, a, c\}$; | 6) $\{x \in R \mid 22 \leq x \leq 3\}$ va \emptyset . |

2. \in yoki \subseteq belgilardan qaysi qo'yilganda to'g'ri tasdiq hosil bo'ladi?

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| 1) $\{1\}$ va $\{1, \{1, 2\}\}$; | 4) \emptyset va $\{\emptyset\}$; |
| 2) $\{1, 2\}$ va $\{1, 2, \{1\}, \{2\}\}$; | 5) \emptyset va $\{\{\emptyset\}\}$; |
| 3) $\{1, 2\}$ va $\{1, 2, \{1, 2\}\}$; | 6) $\{1, 2\}$ va $\{1, 2\}$. |

4. Universal to'plam $U = \{1, 2, 3, 4, 5, 6, 7, 8\}$ va uning qism to'plamlari

$A = \{x \mid 2 < x \leq 6\}$, $B = \{x \mid x \text{ --juft}\}$, $C = \{x \mid x \geq 4\}$, $D = \{1, 2, 4\}$ bo'lsa, $A \cap B$, $A \cup B$, CD , $B \otimes C$, \overline{A} , \overline{BD} , $\overline{A \cup B \cup C}$, $(A - B) \cup (C - D)$, $2^A \cap 2^B$, $2^D - 2^B$ ni toping.

5. $-$, \otimes amallari uchun kommutativlik va assosiativlik xossalari bajarilishini tekshiring.

6. Ifodalang:

- 1) \cup ni \otimes , \cap amallar orqali;
- 2) \cap ni \otimes , \cup amallar orqali;
- 3) \cup va \cap ni \otimes , $-$ amallar orqali.

7. $U = \{-1, -2, -3, -4, -5, 5, 4, 3, 2, 1\}$, $A = \{1, 2, 3\}$, $B = \{-1, -2, -5, 3\}$, $C = \{-3, -4, 1, 2, 3\}$, $D = \{-2, 1, 4, 5\}$ bo'lsa, quyidagi to'plamlarni toping:

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| 1) $\overline{A \cup B} \cap (C \setminus D)$ | 2) $\overline{A/B} \cap (C \cup D)$ |
| 3) $\overline{A \cap B} \cap (C \setminus \overline{D})$ | 4) $(A \cup \overline{B \cup C}) \cap D$ |

8. Berilgan tenglamalar sistemasidagi X to'plamni toping. Bu yerda A, B, C to'plamlar $B \subseteq A \subseteq C$ shartni qanoatlantiradi.

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| 1) $\begin{cases} A - X = B \\ A \cup X = C. \end{cases}$ | 2) $\begin{cases} AX = B \\ A \cup X = C. \end{cases}$ |
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9. $U = \{0,1,2,3,4,5,6,7,8,9\}$, $A = \{1,2,3\}$, $B = \{0,1,2,5,8\}$, $C = \{0,2,5,8\}$, $D = \{3,6,8,9\}$ bo'lsa, quyidagi to'plamlarni toping:

1) $(A \otimes B) \cup \overline{C \cap D}$

2) $(A \cup B \cup C) \cap D$

3) $(B \cap C) \cup (A \cap D)$

4) $\overline{(A \cup B \cup C) \cap D}$

10. Guruhda 32 o'quvchi bor. Ulardan 18 nafari kimyo to'garagiga, 12 tasi biologiya to'garagiga, 8 talaba ushbu to'garaklarning hech biriga qatnashmaydi. Qancha talabalar kimyo va biologiya to'garaklarga qatnashadilar? Qancha talabalar faqat kimyo to'garagiga qatnashadilar?