



## 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) $\begin{cases} AX = B \\ A \cup X = C. \end{cases}$ |
|---|--|

**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?