Множества. Операции. Мощность.

Универсальное множество состоит из 26 строчных букв латинского алфавита.
Заданы множества A, B, C и D. Вычислить мощность множеств X и Y.

Задача 4.1. *12*

$A = \{b, g, m, p, x\}$,
$B = \{b, i, j, l, t\}$,
$C = \{h, i\}$,
$D = \{a, f, i, o, p, q, u, v\}$.
$X = (A \cap B) \cup (D \cap C)$,
$Y = (\overline{A} \cap D) \cup (C \setminus B)$.

Задача 4.2. *12*

$A = \{c, i, k, o, u\}$,
$B = \{f, g, k, r, u\}$,
$C = \{b, c, x, y, z\}$,
$D = \{b, f, h, y, z\}$.
$X = (A \cap B) \cup C$,
$Y = (A \cap \overline{B}) \cup (C \setminus D)$.

Задача 4.3. *12*

$A = \{g, h, o\}$,
$B = \{g, h, o, q\}$,
$C = \{g, h, v\}$,
$D = \{g, n, u, v, z\}$.
$X = (A \cap C) \cup B$,
$Y = (A \cap \overline{B}) \cup (C \setminus D)$.

Задача 4.4. *12*

$A = \{a, m, o, r\}$,
$B = \{e, f, o, y, z\}$,
$C = \{m, n\}$,
$D = \{e, l, q\}$.
$X = (A \setminus B) \cap (\overline{C} \cap D)$,
$Y = (\overline{A} \cap \overline{B}) \setminus (C \cup D)$.

Задача 4.5. *12*

$A = \{b, c, h, n\}$,
$B = \{b, e, f, g, l, w\}$,
$C = \{a, b, k, l, p\}$,
$D = \{a, f, g, p, q, u, v\}$.
$X = (A \cap B) \cup C$,
$Y = (A \cap \overline{B}) \cup (C \setminus D)$.

Задача 4.6. *12*

$A = \{a, l, m, s, u\}$,
$B = \{h, i, m, w, y\}$,
$C = \{m, n\}$,
$D = \{h, l, t\}$.
$X = (A \setminus C) \cap \overline{B}$,
$Y = (\overline{A} \cap \overline{B}) \setminus (C \cup D)$.

Задача 4.7. *12*

$A = \{b, j, k, l, t\}$,
$B = \{j, k, u, v\}$,
$C = \{k, l\}$,
$D = \{a, i, j, s, y, z\}$.
$X = (A \cap C) \cup (D \cap B)$,
$Y = (\overline{A} \cap D) \cup (C \setminus B)$.

Задача 4.8. *12*

$A = \{c, g, h, m, q\}$,
$B = \{a, b, m, o, w\}$,
$C = \{i, j, p, x, z\}$,
$D = \{a, b, f, g\}$.
$X = (A \cup B) \cap D$,
$Y = (A \setminus D) \cup (\overline{C} \setminus \overline{B})$.

Задача 4.9. *12*

$A = \{e, k, n, o, q\}$,
$B = \{a, b, e, o, y\}$,
$C = \{m, n, z\}$,
$D = \{a, m, n, s, t, x, y\}$.
$X = (A \cup B) \cap D$,
$Y = (A \cap \overline{B}) \cup (C \setminus D)$.

Задача 4.10. *12*

$A = \{a, h, k, l, n, v\}$,
$B = \{c, d, h, r, w\}$,
$C = \{k, l, z\}$,
$D = \{c, j, m, v, w\}$.
$X = (A \cup B) \cap C$,
$Y = (\overline{A} \cap \overline{B}) \setminus (C \cup D)$.

Задача 4.11. *12*

$A = \{a, e, h, j, l, n\}$,
$B = \{g, h, o, r\}$,
$C = \{e, f, s, v, x, y\}$,
$D = \{d, g, k, v, w\}$.
$X = (A \cap C) \cup B$,
$Y = (\overline{A} \cap \overline{B}) \setminus (C \cup D)$.

Задача 4.12. *12*

$A = \{e, k, o, p, u\}$,
$B = \{a, b, k, t, u, y\}$,
$C = \{n, o, u\}$,
$D = \{a, n, o, y, z\}$.
$X = (A \cup B) \cap D$,
$Y = (A \cap \overline{B}) \cup (C \setminus D)$.

Задача 4.13. *12*

$A = \{e, g, j, l\}$,
$B = \{e, f, g, q\}$,
$C = \{d, e, q, v, z\}$,
$D = \{d, e, i, u, v, z\}$.
$X = (A \setminus B) \cap (\overline{C} \cap D)$,
$Y = (A \cap \overline{B}) \cup (C \setminus D)$.

Задача 4.14. *12*

$A = \{a, c, e, m, n, p\}$,
$B = \{h, j, k, n, x, y\}$,
$C = \{c, d, o, p, r, s\}$,
$D = \{b, j, l\}$.
$X = (A \cap C) \cup (D \cap B)$,
$Y = (\overline{A} \cap \overline{B}) \setminus (C \cup D)$.

Задача 4.15. *12*

$A = \{b, g, l, n, s, z\}$,
$B = \{g, h, n, s, x\}$,
$C = \{m, n, z\}$,
$D = \{a, g, k, r\}$.
$X = (A \cap C) \cup B$,
$Y = (\overline{A} \cap D) \cup (C \setminus B)$.

Задача 4.16. 12

$A = \{a, d, e, g, h, s\}$,
$B = \{a, b, g, l, q\}$,
$C = \{d, e, m, t, u, w\}$,
$D = \{a, c, d, u, v, z\}$.
$X = (A \cup B) \cap D$,
$Y = (\overline{A} \cap \overline{B}) \backslash (C \cup D)$.

Задача 4.17. 12

$A = \{a, c, d, i, j, m\}$,
$B = \{c, d, i, k, s\}$,
$C = \{c, d, n, p, q\}$,
$D = \{b, c, w, x\}$.
$X = (A \cup B) \cap C$,
$Y = (A \backslash D) \cup (\overline{C} \backslash \overline{B})$.

Задача 4.18. 12

$A = \{b, d, j, k, m\}$,
$B = \{b, c, d, n, u\}$,
$C = \{l, m, w\}$,
$D = \{a, b, j, l, r, s, w, x\}$.
$X = (A \cup D) \cap C$,
$Y = (\overline{A} \cap D) \cup (C \backslash B)$.

Задача 4.19. 12

$A = \{c, d, i, j\}$,
$B = \{d, e, f, n\}$,
$C = \{f, g, s, v, w\}$,
$D = \{b, c, e, h, r, s, w, x\}$.
$X = (A \backslash B) \cap (\overline{C} \cap D)$,
$Y = (A \backslash D) \cup (\overline{C} \backslash \overline{B})$.

Задача 4.20. 12

$A = \{b, i, j, p\}$,
$B = \{g, h, j, k, t, v\}$,
$C = \{h, i, r, x, y\}$,
$D = \{g, h, o, x, y\}$.
$X = (A \cap C) \cup B$,
$Y = (A \cap \overline{B}) \cup (C \backslash D)$.

Задача 4.21. 12

$A = \{a, j, l, n\}$,
$B = \{b, c, k, n, u, x\}$,
$C = \{j, k, m, y, z\}$,
$D = \{b, i, k\}$.
$X = (A \cup D) \cap C$,
$Y = (\overline{A} \cap \overline{B}) \backslash (C \cup D)$.

Задача 4.22. 12

$A = \{a, b, k, m, n, x\}$,
$B = \{j, k, m, o, w\}$,
$C = \{b, c, t, u, y\}$,
$D = \{a, j\}$.
$X = (A \cap C) \cup (D \cap B)$,
$Y = (\overline{A} \cap D) \cup (C \backslash B)$.

Задача 4.23. 12

$A = \{c, f, k, m, o\}$,
$B = \{g, h, o, q, y\}$,
$C = \{h, i, u, x\}$,
$D = \{b, e, g, l\}$.
$X = (A \cap C) \cup B$,
$Y = (A \backslash D) \cup (\overline{C} \backslash \overline{B})$.

Задача 4.24. 12

$A = \{a, k, l, m, n\}$,
$B = \{a, b, k, y\}$,
$C = \{k, l, x, z\}$,
$D = \{a, j, k, o, p, t, u\}$.
$X = (A \cup B) \cap D$,
$Y = (\overline{A} \cap \overline{B}) \backslash (C \cup D)$.

Задача 4.25. 12

$A = \{a, c, k, p\}$,
$B = \{a, e, f, k, v\}$,
$C = \{m, n\}$,
$D = \{b, e, j, o, p, t, u\}$.
$X = (A \backslash B) \cap (\overline{C} \cap D)$,
$Y = (A \backslash D) \cup (\overline{C} \backslash \overline{B})$.

Задача 4.26. 12

$A = \{b, e, f, h, l, n\}$,
$B = \{b, c, e, o, t\}$,
$C = \{m, n, r, v\}$,
$D = \{a, b, k, m, s, t, x, y\}$.
$X = (A \cup D) \cap C$,
$Y = (\overline{A} \cap D) \cup (C \backslash B)$.

Задача 4.27. 12

$A = \{b, k, n\}$,
$B = \{b, c, d, l, v\}$,
$C = \{j, k, y\}$,
$D = \{c, j, m, p, q, u, v\}$.
$X = (A \cup B) \cap C$,
$Y = (A \cap \overline{B}) \cup (C \backslash D)$.

Задача 4.28. 12

$A = \{a, j, l, n, t, x\}$,
$B = \{f, g, j, t, z\}$,
$C = \{n, o\}$,
$D = \{f, m, s, x, y\}$.
$X = (A \cap B) \cup C$,
$Y = (\overline{A} \cap \overline{B}) \backslash (C \cup D)$.

Задача 4.29. 12

$A = \{a, b, e, g, j, l\}$,
$B = \{c, d, e, o, s\}$,
$C = \{h, i, v\}$,
$D = \{a, c, f, i, s, t, x, y\}$.
$X = (A \cup B) \cap C$,
$Y = (\overline{A} \cap D) \cup (C \backslash B)$.

Задача 4.30. 12

$A = \{h, i, m, o\}$,
$B = \{b, c, m, v, w\}$,
$C = \{l, m, u, x\}$,
$D = \{b, l, n\}$.
$X = (A \cup D) \cap C$,
$Y = (A \cap \overline{B}) \cup (C \backslash D)$.

Задача 4.31. 12

$A = \{c, f, h, k, l\}$,
$B = \{a, b, h, n, r, w\}$,
$C = \{m, n, o, q\}$,
$D = \{a, b, j, k, v, w\}$.
$X = (A \cup B) \cap D$,
$Y = (A \backslash D) \cup (\overline{C} \backslash \overline{B})$.

Задача 4.32. 12

$A = \{c, d, e, j, n\}$,
$B = \{d, e, o, t\}$,
$C = \{l, m, n, x\}$,
$D = \{b, d, i, m, s, t, x, y\}$.
$X = (A \backslash B) \cap (C \cap D)$,
$Y = (A \backslash D) \cup (\overline{C} \backslash \overline{B})$.

Задача 4.33. 12

$A = \{c, g, j, l, r\}$,
$B = \{g, h, i, q, v\}$,
$C = \{i, j, m\}$,
$D = \{h, i, q, u, v, z\}$.
$X = (A \backslash C) \cap \overline{B}$,
$Y = (A \cap \overline{B}) \cup (C \backslash D)$.