

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

$$\begin{aligned}A &= \{c, i, j, n, o, t\}, \\B &= \{j, k, n, x, y\}, \\C &= \{l, m, s\}, \\D &= \{b, i, j, s\}. \\X &= (A \cap C) \cup (D \cap B), \\Y &= (A \setminus D) \cup (\overline{C} \setminus \overline{B}).\end{aligned}$$

Задача 4.2.

12

$$\begin{aligned}A &= \{b, c, g, i, m\}, \\B &= \{b, c, m, t\}, \\C &= \{i, j, v\}, \\D &= \{b, f, h, q, r, v, w\}. \\X &= (A \cup D) \cap C, \\Y &= (A \setminus D) \cup (\overline{C} \setminus \overline{B}).\end{aligned}$$

Задача 4.3.

12

$$\begin{aligned}A &= \{b, c, g, h, w\}, \\B &= \{e, f, g, q, w\}, \\C &= \{d, e, k, l, y\}, \\D &= \{a, b, f, g, u, v, z\}. \\X &= (A \cap B) \cup C, \\Y &= (A \setminus D) \cup (\overline{C} \setminus \overline{B}).\end{aligned}$$

Задача 4.4.

12

$$\begin{aligned}A &= \{e, f, l, n, w\}, \\B &= \{f, g, h, p, s\}, \\C &= \{d, e, z\}, \\D &= \{d, g, k, t, u, y, z\}. \\X &= (A \cap C) \cup B, \\Y &= (A \cap \overline{B}) \cup (C \setminus D).\end{aligned}$$

Задача 4.5.

12

$$\begin{aligned}A &= \{b, d, i, k, n\}, \\B &= \{c, d, n, t\}, \\C &= \{l, m, w\}, \\D &= \{a, c, j, m, r, s, w, x\}. \\X &= (A \cup B) \cap C, \\Y &= (\overline{A} \cap D) \cup (C \setminus B).\end{aligned}$$

Задача 4.6.

12

$$\begin{aligned}A &= \{a, b, e, g, h, j\}, \\B &= \{e, f, g, m, q\}, \\C &= \{f, g, r, v, w\}, \\D &= \{a, d, e, i, u, v, z\}. \\X &= (A \setminus B) \cap (\overline{C} \cap D), \\Y &= (\overline{A} \cap D) \cup (C \setminus B).\end{aligned}$$

Задача 4.7.

12

$$\begin{aligned}A &= \{a, b, f, l, p\}, \\B &= \{a, h, j, k, v\}, \\C &= \{e, f, r, s\}, \\D &= \{e, j, o, p, t, u\}. \\X &= (A \cap C) \cup (D \cap B), \\Y &= (A \cap \overline{B}) \cup (C \setminus D).\end{aligned}$$

Задача 4.8.

12

$$\begin{aligned}A &= \{f, g, h, j, l\}, \\B &= \{a, b, h, p, r\}, \\C &= \{e, f, q, r, z\}, \\D &= \{a, e, f, v, w\}. \\X &= (A \cup B) \cap D, \\Y &= (A \cap \overline{B}) \cup (C \setminus D).\end{aligned}$$

Задача 4.9.

12

$$\begin{aligned}A &= \{b, c, d, m, n\}, \\B &= \{a, b, l, q, x\}, \\C &= \{o, p, r\}, \\D &= \{a, b, l, m, p, q, u, v\}. \\X &= (A \cup B) \cap D, \\Y &= (A \setminus D) \cup (\overline{C} \setminus \overline{B}).\end{aligned}$$

Задача 4.10.

12

$$\begin{aligned}A &= \{a, d, f, k, m\}, \\B &= \{e, f, j, m, w, x\}, \\C &= \{f, g, o, t, u\}, \\D &= \{e, j\}. \\X &= (A \setminus B) \cap (\overline{C} \cap D), \\Y &= (\overline{A} \cap \overline{B}) \setminus (C \cup D).\end{aligned}$$

Задача 4.11.

12

$$\begin{aligned}A &= \{e, j, k, m, n\}, \\B &= \{b, c, e, o, u\}, \\C &= \{j, k, w, y\}, \\D &= \{b, j, l, s, t, x, y\}. \\X &= (A \cup D) \cap C, \\Y &= (A \cap \overline{B}) \cup (C \setminus D).\end{aligned}$$

Задача 4.12.

12

$$\begin{aligned}A &= \{a, c, d, f, m, t\}, \\B &= \{a, i, j, k, z\}, \\C &= \{f, g, r, s, x\}, \\D &= \{b, c, i, l, o, p, t, u\}. \\X &= (A \cap B) \cup (D \cap C), \\Y &= (A \setminus D) \cup (\overline{C} \setminus \overline{B}).\end{aligned}$$

Задача 4.13.

12

$$\begin{aligned}A &= \{a, b, c, f, g, j\}, \\B &= \{a, d, e, h, k, v\}, \\C &= \{h, i, l, m, r, s\}, \\D &= \{b, d, e, i, o, p, t, u\}. \\X &= (A \setminus B) \cap (C \cap D), \\Y &= (A \setminus D) \cup (\overline{C} \setminus \overline{B}).\end{aligned}$$

Задача 4.14.

12

$$\begin{aligned}A &= \{h, j, k, u\}, \\B &= \{h, j, k, r, u\}, \\C &= \{j, k\}, \\D &= \{j, t, v, w\}. \\X &= (A \cap C) \cup (D \cap B), \\Y &= (A \cap \overline{B}) \cup (C \setminus D).\end{aligned}$$

Задача 4.15.

12

$$\begin{aligned}A &= \{g, l, o\}, \\B &= \{h, i, o, s, y\}, \\C &= \{f, g\}, \\D &= \{f, h, n\}. \\X &= (A \setminus C) \cap \overline{B}, \\Y &= (A \cap \overline{B}) \cup (C \setminus D).\end{aligned}$$

Задача 4.16.

12

$$\begin{aligned}
A &= \{a, g, k, l, p\}, \\
B &= \{d, e, g, q, w\}, \\
C &= \{l, m\}, \\
D &= \{d, k, o, u, v, z\}. \\
X &= (A \setminus B) \cap (C \cap D), \\
Y &= (\overline{A \cap B}) \setminus (C \cup D).
\end{aligned}$$

Задача 4.19.

12

$$\begin{aligned}
A &= \{h, j, k\}, \\
B &= \{c, d, j, p, t\}, \\
C &= \{g, h, s\}, \\
D &= \{c, g, j, x, y\}. \\
X &= (A \cup B) \cap C, \\
Y &= (A \cap \overline{B}) \cup (C \setminus D).
\end{aligned}$$

Задача 4.22.

12

$$\begin{aligned}
A &= \{a, c, j, l, m, s\}, \\
B &= \{i, j, l, m, v, w\}, \\
C &= \{j, k, v, w\}, \\
D &= \{i, r, z\}. \\
X &= (A \cap B) \cup (D \cap C), \\
Y &= (\overline{A \cap B}) \setminus (C \cup D).
\end{aligned}$$

Задача 4.25.

12

$$\begin{aligned}
A &= \{a, c, j, l, q\}, \\
B &= \{a, g, h, k, u\}, \\
C &= \{l, m, r, v, y, z\}, \\
D &= \{b, g, i, o, p, t, u\}. \\
X &= (A \cap C) \cup B, \\
Y &= (A \setminus D) \cup (\overline{C} \setminus \overline{B}).
\end{aligned}$$

Задача 4.17.

12

$$\begin{aligned}
A &= \{b, c, f, m, p\}, \\
B &= \{c, d, f, o, p, v\}, \\
C &= \{o, p, r\}, \\
D &= \{b, c, l, o, t, u, y, z\}. \\
X &= (A \cup B) \cap C, \\
Y &= (A \setminus D) \cup (\overline{C} \setminus \overline{B}).
\end{aligned}$$

Задача 4.20.

12

$$\begin{aligned}
A &= \{b, i, k, m, q\}, \\
B &= \{d, e, i, s, z\}, \\
C &= \{n, o, x\}, \\
D &= \{a, d, l, p, w, x\}. \\
X &= (A \setminus B) \cap (C \cap D), \\
Y &= (\overline{A \cap D}) \cup (C \setminus B).
\end{aligned}$$

Задача 4.23.

12

$$\begin{aligned}
A &= \{b, d, g, m, n\}, \\
B &= \{a, b, g, q, x\}, \\
C &= \{n, o, r\}, \\
D &= \{a, l, m, u, v, z\}. \\
X &= (A \cup B) \cap D, \\
Y &= (\overline{A \cap D}) \cup (C \setminus B).
\end{aligned}$$

Задача 4.26.

12

$$\begin{aligned}
A &= \{c, e, f, k, o, v\}, \\
B &= \{e, f, o, u\}, \\
C &= \{h, i, z\}, \\
D &= \{b, e, j, s, t, x, y\}. \\
X &= (A \setminus B) \cap (\overline{C} \cap D), \\
Y &= (A \setminus D) \cup (\overline{C} \setminus \overline{B}).
\end{aligned}$$

Задача 4.18.

12

$$\begin{aligned}
A &= \{a, b, c, j, z\}, \\
B &= \{a, d, g, h, k, u\}, \\
C &= \{d, e, k, l\}, \\
D &= \{a, b, g, i, o, p, t, u\}. \\
X &= (A \cap C) \cup B, \\
Y &= (\overline{A \cap D}) \cup (C \setminus B).
\end{aligned}$$

Задача 4.21.

12

$$\begin{aligned}
A &= \{c, i, k, n, r\}, \\
B &= \{g, h, n, t, x\}, \\
C &= \{m, n\}, \\
D &= \{b, g, j, q\}. \\
X &= (A \cap C) \cup B, \\
Y &= (A \setminus D) \cup (\overline{C} \setminus \overline{B}).
\end{aligned}$$

Задача 4.24.

12

$$\begin{aligned}
A &= \{a, c, d, g, m, u\}, \\
B &= \{g, h, i, p, q, w\}, \\
C &= \{m, n, q, x\}, \\
D &= \{h, l, t, u, v, z\}. \\
X &= (A \setminus C) \cap \overline{B}, \\
Y &= (\overline{A \cap B}) \setminus (C \cup D).
\end{aligned}$$

Задача 4.27.

12

$$\begin{aligned}
A &= \{b, d, g, m, n\}, \\
B &= \{b, j, k, l\}, \\
C &= \{e, f, q, s, t, u\}, \\
D &= \{a, c, j, m, p, q, u, v\}. \\
X &= (A \cap C) \cup (D \cap B), \\
Y &= (\overline{A \cap D}) \cup (C \setminus B).
\end{aligned}$$