

Multimi de numere

$$A = \{1, 2, 3, 4, 5\} \quad B = \{3, 4, 6\} \quad C = \{5\} \quad D = \{9\}$$

$$\begin{array}{ll} A \cup B = \{1, 2, 3, 4, 5, 6\} & A \cap C = \{5\} = C \\ A \cap B = \{3, 4\} & A \cup C = \{1, 2, 3, 4, 5\} = A \\ A \setminus B = \{1, 2\} & A - C = \{1, 2, 3, 4\} \\ B - A = \{6\} & C - A = \emptyset \end{array} \quad \left. \begin{array}{l} C \subset A \Leftrightarrow \\ A \supset C \end{array} \right\}$$

$$\begin{array}{ll} A \cup D = \{1, 2, 3, 4, 5, 9\} & A - D = A \\ A \cap D = \emptyset & D - A = D \end{array} \quad \left. \begin{array}{l} A \cap D = \emptyset \rightarrow \\ A \text{ și } D \text{ sunt m.t.} \end{array} \right\} \text{DISJUNCTE}$$

$$\begin{array}{ll} A = \{1, 2, 3, 4\} & E = \{3, 4\} \\ C_E A = \{x \mid x \in A, x \notin E\} & C_A E = \{x \mid x \in E, x \notin A\} \\ C_E A = \{1, 2\} & C_A E = \emptyset \end{array}$$

$$\begin{array}{ll} A = \{1, 2, 3\} & B = \{5\} \\ A \times B = \{(1, 5), (2, 5), (3, 5)\} & B \times A = \{(5, 1), (5, 2), (5, 3)\} \end{array}$$

$$\begin{array}{lll} A \cup B = B \cup A & A \cap B = B \cap A & A - C \neq C - A \\ & & A \times B \neq B \times A \end{array}$$

$$A = \left\{ \frac{5}{6}, 0, 1(2), \sqrt{2}, \sqrt{144}, -\frac{18}{9} \right\} \quad -\frac{18}{9} = -2$$

$$A \cap \mathbb{N} = \emptyset$$

$$A \cap \mathbb{Z} = \left\{ -\frac{18}{9} \right\}$$

$$A \cap \mathbb{R} = A$$

$$A \cap \mathbb{Q} = \left\{ \frac{5}{6}, 0, 1(2), -\frac{18}{9}, \sqrt{144} \right\}$$

$$A \cap (\mathbb{R} \setminus \mathbb{Q}) = \{\sqrt{2}\}$$

$$\sqrt{144} = \sqrt{\frac{144}{100}} = \frac{\sqrt{144}}{\sqrt{100}} = \frac{12}{10}$$

$$\sqrt{12} = \sqrt{4 \cdot 3} = \sqrt{4} \cdot \sqrt{3} = 2\sqrt{3}, \sqrt{3} \in \mathbb{R} \setminus \mathbb{Q} \Rightarrow 2\sqrt{3} \in \mathbb{R} \setminus \mathbb{Q}$$