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① $A \setminus (B \cup C) = (A \setminus B) \cap (A \setminus C)$

$A \setminus (B \cup C) = \{1,2,3,4,5\} \setminus \{1,2,3,4,6,7,8\} = \{5\}$

$(A \setminus B) \cap (A \setminus C) = \{1,3,5\} \cap \{4,5\} = \{5\}$

$\{5\} = \{5\}$ ч.т.д.

② $A \setminus (B \cap C) = (A \setminus B) \cup (A \setminus C)$

$A \setminus (B \cap C) = \{1,2,3,4,5\} \setminus \{2\} = \{1,3,4,5\}$

$(A \setminus B) \cup (A \setminus C) = \{1,3,5\} \cup \{4,5\} = \{1,3,4,5\}$

$\{1,3,4,5\} = \{1,3,4,5\}$ ч.т.д.

③ $A \setminus (A \setminus B) = (A \cap B)$

$A \setminus (A \setminus B) = \{1,2,3,4,5\} \setminus \{1,3,5\} = \{2,4\}$

$A \cap B = \{2,4\}$

$\{2,4\} = \{2,4\}$ ч.т.д.

④ $A \setminus B = A \setminus (A \cap B)$

$A \setminus B = \{1,3,5\}$

$A \setminus (A \cap B) = \{1,2,3,4,5\} \setminus \{2,4\} = \{1,3,5\}$

$\{1,3,5\} = \{1,3,5\}$ ч.т.д.

⑤ $A \cap (B \setminus C) = (A \cap B) \setminus (A \cap C)$

$A \cap (B \setminus C) = \{1,2,3,4,5\} \cap \{4,6,8\} = \{4\}$

$(A \cap B) \setminus (A \cap C) = \{2,4\} \setminus \{1,2,3\} = \{4\}$

$\{4\} = \{4\}$ ч.т.д.

⑥ $(A \cap B) \setminus (A \cap C) = (A \cap B) \setminus C$

$(A \cap B) \setminus (A \cap C) = \{2,4\} \setminus \{1,2,3\} = \{4\}$

$(A \cap B) \setminus C = \{2,4\} \setminus \{7,3,2,1\} = \{4\}$

$\{4\} = \{4\}$ ч.т.д.

⑦ $A \cap (B \setminus C) = (A \cap B) \setminus C$

$A \cap (B \setminus C) = \{1,2,3,4,5\} \cap \{4,6,8\}$

$(A \cap B) \setminus C = \{2,4\} \setminus \{7,3,2,1\} = \{4\}$

$\{4\} = \{4\}$ ч.т.д.

⑧ $(A \setminus B) \setminus C = (A \setminus C) \setminus (B \setminus C)$

$(A \setminus B) \setminus C = \{1,3,5\} \setminus \{7,3,2,1\} = \{5\}$

$(A \setminus C) \setminus (B \setminus C) = \{4,5\} \setminus \{4,6,8\} = \{5\}$

$\{5\} = \{5\}$ ч.т.д.

⑨ $A \cup B = A \cup (B \setminus A)$

$A \cup B = \{1,2,3,4,5,6,8\}$

$A \cup (B \setminus A) = \{1,2,3,4,5\} \cup \{6,8\} = \{1,2,3,4,5,6,8\}$

$\{1,2,3,4,5,6,8\} = \{1,2,3,4,5,6,8\}$ ч.т.д.

⑩ $(A \cap B) \cup (A \cap \bar{B}) = A$

$(A \cap B) \cup (A \cap \bar{B}) = \{2,4\} \cup \{1,3,5\} = \{1,2,3,4,5\}$

$\{1,2,3,4,5\} = \{1,2,3,4,5\}$ ч.т.д.

⑪ $(A \cup B) \cap (A \cup \bar{B}) = A$

$(A \cup B) \cap (A \cup \bar{B}) = \{1,2,3,4,5,6,8\} \cap \{1,2,3,4,5,7\} = \{1,2,3,4,5$

$\{1,2,3,4,5\} = \{1,2,3,4,5\}$ ч.т.д.

⑫ $(\bar{A} \cup B) \cap A = (A \cap B)$

$(\bar{A} \cup B) \cap A = \{2,4,6,7,8\} \cap \{1,2,3,4,5\} = \{2,4\}$

$(A \cap B) = \{2,4\}$

$\{2,4\} = \{2,4\}$ ч.т.д.

⑬ $(A \cup B) \setminus C = (A \setminus C) \cup (B \setminus C)$

$(A \cup B) \setminus C = \{1,2,3,4,5,6,8\} \setminus \{7,3,2,1\} = \{4,5,6,8\}$

$(A \setminus C) \cup (B \setminus C) = \{4,5\} \cup \{4,6,8\} = \{4,5,6,8\}$

$\{4,5,6,8\} = \{4,5,6,8\}$ ч.т.д.

⑭ $A \setminus (B \setminus C) = (A \setminus B) \cup (A \cap C)$

$A \setminus (B \setminus C) = \{1,2,3,4,5\} \setminus \{4,6,8\} = \{1,2,3,5\}$

$(A \setminus B) \cup (A \cap C) = \{1,3,5\}$

$\{1,2,3,5\} = \{1,2,3,5\}$ ч.т.д.