Příklad 5. Mg. Gabriel. Ondrovič.

(1) a) $A \cap B$ ... nechť: $A \cap B$

b) $A \cup B$ ... nechť: $A \cup B$

c) $A \setminus B$ ... nechť: $A \setminus B$

nechť: $A \setminus B$, nechť $A \setminus B$ ... platí $A \setminus B$

d) $A \setminus (A \setminus B)$ ... nechť: $A \setminus (A \setminus B)$

nechť: $A \setminus (A \setminus B)$ platí $A \setminus B$

nechť: $A \setminus (A \setminus B) = A \setminus B$

Cv. 5.2a

a) $(A \cup B) \setminus (A \cap B) = (A \setminus B) \cup (B \setminus A)$

1) $T_1(A) = \emptyset$

$T_2(A) = \{A \setminus B, A \setminus B\}$

$T_3(A) = \{A \setminus B\}$

$T_4(A) = \{\{A \setminus B, A \setminus B\}\}$

$\boxed{T_5(A) = \{\{A \setminus B, A \setminus B\}\}}$

$\boxed{\emptyset \neq \emptyset}$

2) $T_1(A) = \emptyset$

$T_2(A) = \{A \setminus B\}$

$T_3(A) = \{B \setminus A\}$

$T_4(A) = \{A, B\} = T_1(A)$

3) $T_1(A) = \emptyset$

$T_2(A) = \{A\}$

$T_3(A) = \emptyset$

pomocná množina $A \in \emptyset$ $\quad T_3(A) = T_1(A) = \emptyset$

prázdna množina

nechť

1) $T_1(A) = \emptyset$, nechť $T_2(A) = \emptyset$

2) $T_2(A)$ nechť nechť $T_3(A) = \emptyset$ $\quad$ $\{A \setminus B\}$

3) $T_3(A)$ nechť nechť $T_4(A) = \emptyset$ $\quad$ $\{A \setminus B\}$

nechť $\{T_4(A)\}$ $\quad$ $\{A \setminus B\}$

nechť $T_4(A)$ $\quad$ $\{A \setminus B\}$

2.2b $(A \setminus B) \setminus (A \setminus B) = (A \setminus B) \setminus (A \setminus B)$

1) $T_1 = \{A \setminus B\}$

$T_2 = \{\{A \setminus B\}\}$

$T_3 = \{\emptyset, \{A \setminus B\}\}$

$T_4 = \{\emptyset, \{A \setminus B\}, \{\{A \setminus B\}\}\} = T_3$

$T(A) = \boxed{\{\emptyset, \{A \setminus B\}\}}$

$\boxed{\emptyset \neq \emptyset}$

2) $T_1(A) = \emptyset$

$T_2(A) = \emptyset$

$T_3(A) = \{A \setminus B\}$ $\quad$ $T_3 \subseteq T_2$

$T_4(A) = \emptyset$

$T_5(A) = \emptyset$

$T(A) = \emptyset$

(2) $T_1(A) = \emptyset$, ale $T_2(A) = \emptyset$

(3) $T_3(A) = \emptyset$ $\quad$ ale $T_3(A) \neq \emptyset$

$T_4(A) = \emptyset$ $\quad$ $T_4(A) \neq \emptyset$

$\boxed{\emptyset \neq \emptyset}$

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

(2 $T_1(A) = \{\{A \setminus B\}\}$

$T_2(A) = \{A \setminus B\}$

$T_3(A) = \{A \setminus B\}$

$T_4(A) = \{A \setminus B\}$

$T_5(A) = \{A \setminus B\}$

$T(A) = \{A \setminus B\}$

(3) $T_1(A) = \emptyset$

$T_2(A) = \{A\}$

$T_3(A) = \{B\}$

$T_4(A) = \{\{A\}, \{B\}\}$

$T_5(A) = \{\{A\}, \{B\}\}$

$T_6(A) = \{\{A\}, \{B\}\}$

$T(A) = \{\{A\}, \{B\}\}$

konstrukce

$\{A \setminus B\}$

$\{A\}$

$\{B\}$

$\{A\}$

$\{B\}$

$\{\{A\}, \{B\}\}$

$\{\{A\}, \{B\}\}$

$\{\{A\}, \{B\}\}$

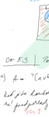
Cv. 5.5

a) $(A \setminus (B \setminus C)) \setminus ((C \setminus A) \setminus (A \setminus B))$ $\quad$ přednášky

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

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

množina $\quad$ množina

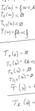


b) $(A \setminus B) \setminus (A \setminus B)$ $\quad$ jednoduchá

$(A \setminus B) \setminus (A \setminus B)$

$(A \setminus B) \setminus (A \setminus B) \rightarrow$ prázdný prvek

množina $\quad$ množina



Cv. 5.6 | Tvrzení nebo ne $\Rightarrow$ TD, $\Rightarrow$ kontrapříklad

1) $A = \{\{\emptyset\}\}$ $\quad$ $T = \{\{\emptyset\}, \{\{\emptyset\}\}\}$

Když jsou kontrapříklady, dokud chybí, tak nebudou platit na prázdnou $\{\}$ tak $\Rightarrow$ kontrapříklad

$\{\{\emptyset\}\} \subseteq T$ $\quad$ $\{\{\emptyset\}\} \in T$

nebo nechť tomuto dokud, kde tomuto

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1. $A \setminus B \setminus C$ $\Rightarrow$ nebo zápisy

$(A \setminus B) \setminus (A \setminus C) = (A \setminus B) \setminus (A \setminus C)$ $\quad$ $\rightarrow$ nedělají kontrakce

podmnožiny platí $\Rightarrow$ zápisy

$\rightarrow$ kde není platí $\Rightarrow$ nebo kontrakce

kontrakce

$T_1(A) = \{A \setminus C\}$

$T_2(A) = \{A \setminus C\}, \{A \setminus C\}, \{A \setminus C\}$

$T_3(A) = \emptyset$

$T_4(A) = \emptyset$

$T(A) = \{A \setminus C\}$

$T_1(A) = \emptyset$

$T_2(A) = \{A \setminus C\}$

$T_3(A) = \emptyset$

$T_4(A) = \emptyset$

$T(A) = \emptyset$

$T_1(A) = \emptyset \Rightarrow T_2(A) = \emptyset$ $\quad$ $T_3(A) = \emptyset \Rightarrow T_4(A) = \emptyset$

nebo kontrakce $\Rightarrow T_5 = \emptyset$

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3) $A = \{\emptyset\}$ $\quad$ $T = \{\{\emptyset\}, \{\{\emptyset\}\}\}$ $\quad$ kontrakce

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

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

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1) $T_1(A) = \{\emptyset, \{\emptyset\}, \{\{\emptyset\}\}\}$

$T_2(A) = \{\{\emptyset\}, \{\{\emptyset\}\}\}$

$T_3(A) = \{\{\emptyset\}\}$

$T_4(A) = \{\emptyset, \{\{\emptyset\}\}\}$

$T(A) = \{\emptyset, \{\{\emptyset\}\}\}$

2) $T_1(A) = \{\emptyset\}$

$T_2(A) = \{\emptyset\}$

$T_3(A) = \emptyset$

$T_4(A) = \emptyset$

$T(A) = \emptyset$

3) $T_1(A) = \emptyset$

$T_2(A) = \{\emptyset\}$

$T_3(A) = \{\emptyset\}$

$T_4(A) = \{\emptyset\}$

$T(A) = \{\emptyset\}$

5.7. a) nechť nechť $\Rightarrow$ nechť nechť

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

1) $T_1(A) = \{\{\emptyset\}\}$

$T_2(A) = \{\{\emptyset\}, \{\{\emptyset\}\}\}$

$T_3(A) = \{\{\emptyset\}, \{\{\emptyset\}\}, \{\{\emptyset\}, \{\{\emptyset\}\}\}\}$

$T_4(A) = \{\{\emptyset\}, \{\{\emptyset\}\}, \{\{\emptyset\}, \{\{\emptyset\}\}\}\}$

$T(A) = \{\emptyset, \{\{\emptyset\}\}, \{\{\emptyset\}, \{\{\emptyset\}\}\}\}$

2) $T_1(A) = \emptyset$

$T_2(A) = \{\emptyset\}$

$T_3(A) = \{\emptyset, \{\emptyset\}\}$

$T_4(A) = \{\emptyset, \{\emptyset\}, \{\{\emptyset\}\}\}$

$T(A) = \{\emptyset, \{\emptyset\}, \{\{\emptyset\}\}\}$

3) $T_1(A) = \emptyset$

$T_2(A) = \{\emptyset\}$

$T_3(A) = \{\emptyset\}$

$T_4(A) = \{\emptyset\}$

$T(A) = \{\emptyset\}$

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

1) $T_1(A) = \{\{a\}, \{\{a\}\}, \{a, \{\{a\}\}\}\}$

$T_2(A) = \{\{a\}, \{\{a\}\}, \{a, \{\{a\}\}\}\}$

$T_3(A) = \{\{a\}, \{\{a\}\}, \{a, \{\{a\}\}\}\}$

$T_4(A) = \{\{a\}, \{\{a\}\}, \{a, \{\{a\}\}\}\}$

$T(A) = \{\{a\}, \{\{a\}\}, \{a, \{\{a\}\}\}\}$

2) $T_1(A) = \{\{a\}\}$

$T_2(A) = \{\{a\}, \{a, \{\{a\}\}\}\}$

$T_3(A) = \{\{a\}, \{a, \{\{a\}\}\}\}$

$T_4(A) = \{\{a\}, \{a, \{\{a\}\}\}\}$

$T(A) = \{\{a\}, \{a, \{\{a\}\}\}\}$

3) $T_1(A) = \{\{a\}\}$

$T_2(A) = \{\{a, \{\{a\}\}\}\}$

$T_3(A) = \{\{a, \{\{a\}\}\}\}$

$T_4(A) = \{\{a, \{\{a\}\}\}\}$

$T(A) = \{\{a, \{\{a\}\}\}\}$

4) $T_1(A) = \{\{a\}\}$

$T_2(A) = \{\{a\}, \{a, \{\{a\}\}\}\}$

$T_3(A) = \{\{a\}, \{a, \{\{a\}\}\}\}$

$T_4(A) = \{\{a\}, \{a, \{\{a\}\}\}\}$

$T(A) = \{\{a\}, \{a, \{\{a\}\}\}\}$

$T_1(A) = \emptyset$

$T_2(A) = \emptyset$

$T_3(A) = \emptyset$

$T_4(A) = \{\emptyset\}$

$T(A) = \{\emptyset\}$

kontrakce