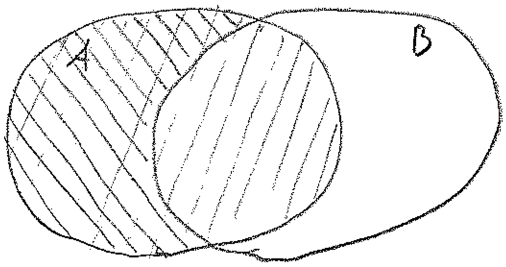
1)

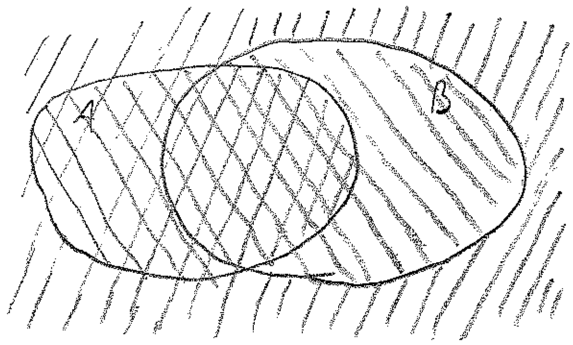


A = ////

$(A - B)$ = \\\\

$A - (A - B)$ is dus wat er overblijft $= A \cap B$

2) a.

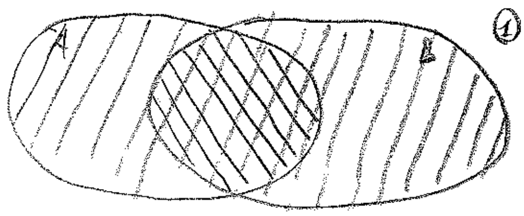


$(A \cup B^c)$ = ////

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

de doorsnede is dubbel gearceerd $= A$

b.

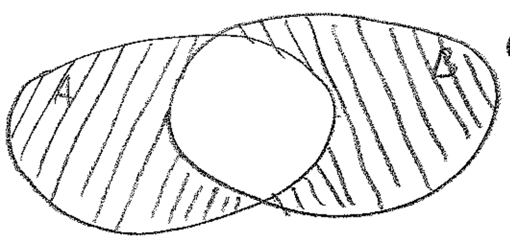


1

$(A \cup B)$ = ////

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

$(A \cup B) \setminus (A \cap B)$ is wat er //// overblijft.



2

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

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

de vereniging is hetzelfde als in 1

3) a. $A \subseteq B \Leftrightarrow A \cap B = A$

$\Rightarrow A \subseteq B \Rightarrow A \cap B = A$

$\Rightarrow A \cap B \subseteq A$

triviaal

$\Leftarrow A \subseteq A \cap B$

neem een $x \in A$, vanwege $A \subseteq B$ is $x \in B$ en omdat $x \in A$ en $x \in B$ geldt $x \in A \cap B$.

$\Leftarrow A \cap B = A \Rightarrow A \subseteq B$

neem een $x \in A$, dan is $x \in A \cap B$ (aanname) en dus is $x \in B$ $\blacksquare$

b. $A \subseteq B \Leftrightarrow A \cup B = B$

$\Rightarrow A \subseteq B \Rightarrow A \cup B = B$

$\Rightarrow A \cup B \subseteq B$

neem een $x \in A$, dan is $x \in A \cup B$ en vanwege $A \subseteq B$ zit x in B.

$\Leftarrow B \subseteq A \cup B$

triviaal.

$\Leftarrow A \cup B = B \Rightarrow A \subseteq B$

neem een $x \in A$, dan is $x \in A \cup B$ en omdat $A \cup B = B$ is $x \in B$ $\blacksquare$

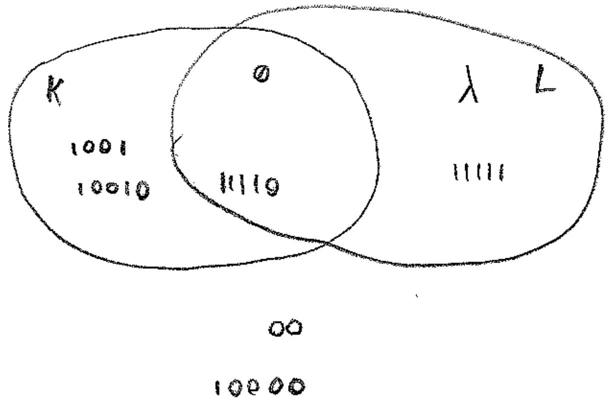
c. $A \cap B = A \Leftrightarrow A \cup B = B$

omdat $A \cap B = A \Leftrightarrow A \in B$ en $A \subseteq B \Leftrightarrow A \cup B = B$ geldt $A \cap B = A \Leftrightarrow A \cup B = B$ $\blacksquare$

4) a. $K = \{0, 11, 110, 1001, 1100, \ldots\}$

$L = \{\lambda, 0, 1, 01, 10, \ldots\}$

b.



	binair getal	drievoud	00 als substr.
λ	n	n	n
0	j	j	n
00	n	j	j
1001	j	j	j
10000	j	n	j
10010	j	j	j
11110	j	j	n
11111	j	n	n

5) $P(V) = \{\emptyset, \{\{\emptyset\}\}, \{u\}, \{v\}, \{\{\emptyset\}, u\}, \{\{\emptyset\}, v\}, \{u, v\}, \{\{\emptyset\}, u, v\}\}$

$\emptyset \in P(V)$? ja (omdat $\emptyset \subseteq V$)

$\{\emptyset\} \in P(V)$? nee ($\{\emptyset\} \not\subseteq V$ want $\emptyset \notin V$)

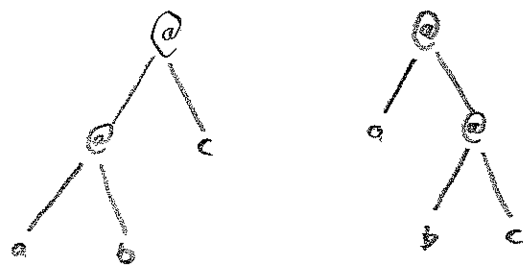
$\{\{\emptyset\}\} \in P(V)$? ja ($\{\{\emptyset\}\} \subseteq V$ want $\{\emptyset\} \in V$)

$\emptyset \subseteq P(V)$? ja ($\emptyset \subseteq$ elke verzameling)

$\{\emptyset\} \subseteq P(V)$? ja ($\emptyset \in P(V)$)

$\{\{\emptyset\}\} \subseteq P(V)$? nee ($\{\emptyset\} \notin P(V)$)

6) De associativiteitsregel is $(a@b)@c = a@(b@c)$



en a, b en c mogen ook subbomen zijn.