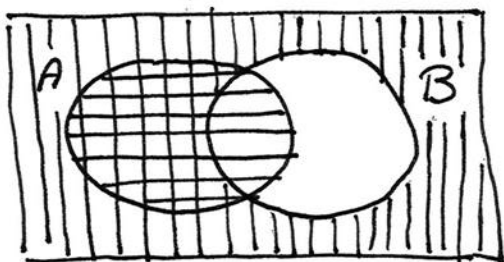
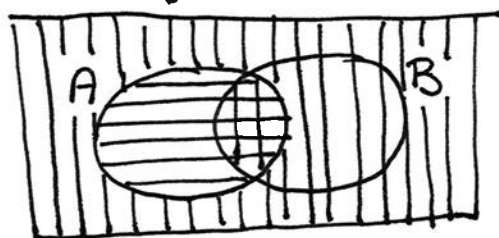


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$A \equiv$
 $B^c \equiv$

$A \cap B^c$ dubbel
 $(A \cap B^c)^c$ niet dubbel



$(A \cap B^c)^c \equiv$
 $A \equiv$

$A \cap (A \cap B^c)^c$ dubbel
gelijk aan $A \cap B$

b

- $A \cap (A \cap B^c)^c = \text{De Morgan}$
- $A \cap (A^c \cup B^c)^c = \text{dubbel c.}$
- $A \cap (A^c \cup B) = \text{distr.}$
- $(A \cap A^c) \cup (A \cap B) = \text{complem.}$
- $\emptyset \cup (A \cap B) = \text{nul}$
- $A \cap B$

$\subseteq A \cup (A \cup U)^c = A \cup \emptyset$

② a $|A \cup B| = |A| + |B| - |A \cap B|$

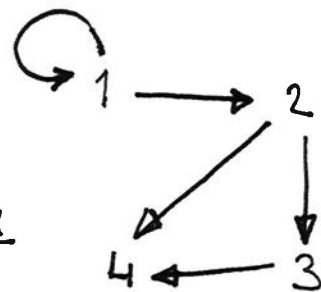
b vijf nullen $\binom{10}{5} = \frac{10 \cdot 9 \cdot 8 \cdot 7 \cdot 6}{5 \cdot 4 \cdot 3 \cdot 2 \cdot 1} = 252$

eerste 11 $2^8 = 256$

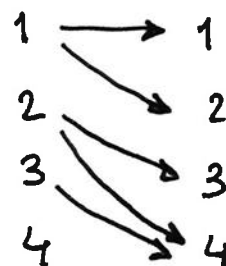
allebei $\binom{8}{5} = \frac{8 \cdot 7 \cdot 6}{3 \cdot 2 \cdot 1} = 56$

totaal $252 + 256 - 56 = 452$

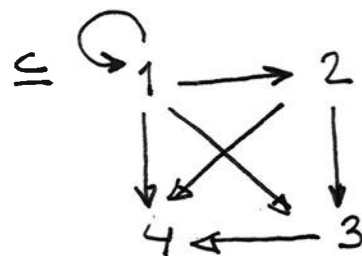
③



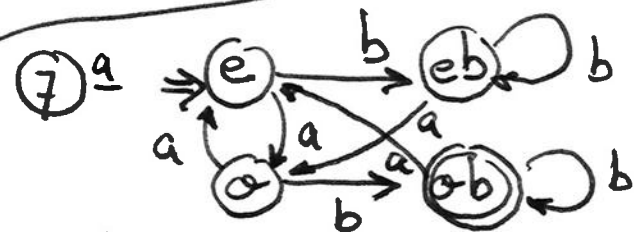
a



- b niet reflexief $(2,2) \notin X$
- niet symm $(2,3) \in X, (3,2) \notin X$
- anti symm: geen $(x,y) \in X, (y,x) \in X$
 $x \neq y$



voeg toe
 $(1,3), (1,4)$



⑦ a

b $(b^*ab^*a)^*b^*ab^*b$

FI 1 mrt '17

④ a b a b b b b a a a b a a

$b^{94} a^{95}$ kies steeds $y = a$
en x vorige string

b basis $z = a$

$\#_a(z) = 1$ $\#_b(z) = 0$

ok.

inductie aanname $x, y \in L$

en $\#_a(x) = \#_b(x) + 1$

$\#_a(y) = \#_b(y) + 1$

controleer nu $z = bxy$

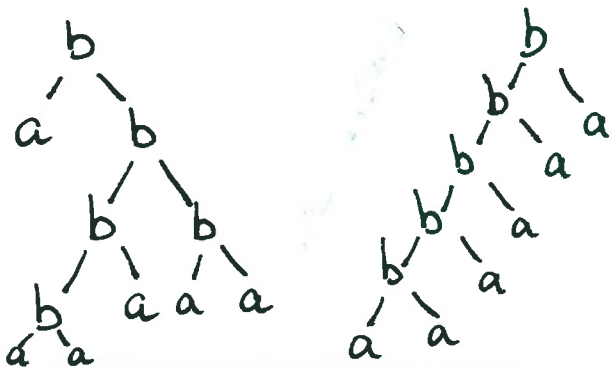
$\#_a(bxy) = \#_a(x) + \#_a(y) = *$

$\#_b(bxy) = 1 + \#_b(x) + \#_b(y)$

$= * \#_b(x) + \#_b(y) + 2$

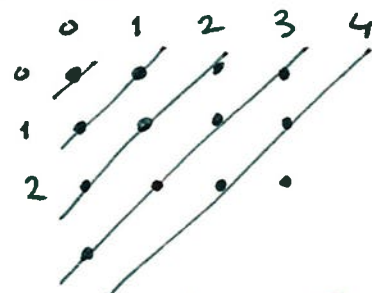
ok.

\subseteq



⑤ $\mathbb{N} \times \mathbb{N} = \{(i, j) \mid i, j \in \mathbb{N}\}$

a cantorwandelinq



getallen rooster.

b nee, kies $A = \mathbb{R}$ en $f(x) = x$

of $A = \mathcal{P}(\mathbb{N})$ en $f(x) = \{x\}$

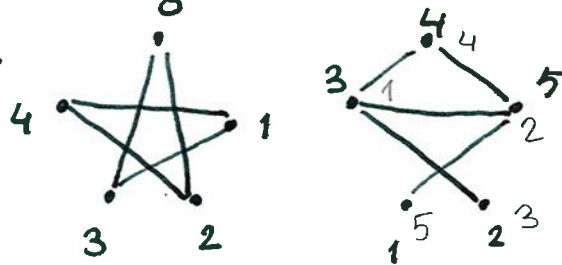
c ja, als $f: \mathbb{N} \rightarrow A$ surjectief

dan is of A eindig, of we kunnen
 $g: \mathbb{N} \rightarrow A$ bijectief maken door steeds
eerste waarde te kiezen die nog niet
geloozen werd.

⑥ a $n-1 \leq e \leq \binom{n}{2} = \frac{n \cdot (n-1)}{2}$

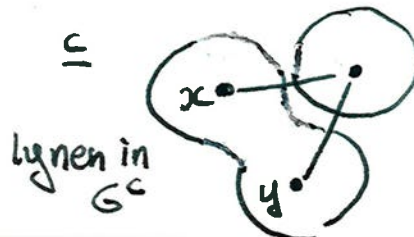
"bull graph"

b



0	→	0	1	→	3
1	→	2	2	→	5
2	→	4	3	→	2
3	→	1	4	→	4
4	→	3	5	→	1

\subseteq



bekijk componenten in G ,
dat zijn er tenminste twee
 $(x, y) \notin E$, dan verbonden in
 G^c , anders in twee stappen.