ALG Ü4

2005) A... Menge $\Theta_1, \Theta_2, \ldots$ Äquivalenzrelationen auf A

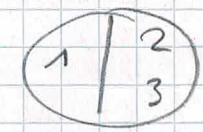
$\Theta_2/\Theta_1 := \{([a]_{\Theta_1}, [b]_{\Theta_1}) \in A/\Theta_1 \times A/\Theta_1 \mid (a,b) \in \Theta_2\}$

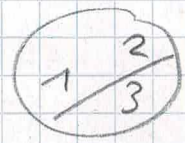
a) ges: Beispiel sodass $([x]_{\Theta_1}, [y]_{\Theta_1}) \in \Theta_2/\Theta_1 \Leftrightarrow (x,y) \in \Theta_2$

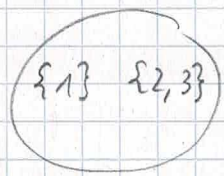
$A = \{1,2,3\}$ $A/\Theta_1 = \{\{1\},\{2,3\}\}$ $A/\Theta_2 = \{\{1,2\},\{3\}\}$

$x = 1,\ y = 3 \Rightarrow (x,y) = (1,3) \notin \Theta_2$

$([x]_{\Theta_1}, [y]_{\Theta_1}) = (\{1\},\{2,3\}) = ([1]_{\Theta_1}, [2]_{\Theta_1}) \in \Theta_2/\Theta_1$, da $(1,2) \in \Theta_2$

A/Θ_1 

A/Θ_2 

Θ_2/Θ_1 

b) zz: $(\forall x,y \in A: ([x]_{\Theta_1}, [y]_{\Theta_1}) \in \Theta_2/\Theta_1 \Leftrightarrow (x,y) \in \Theta_2) \Rightarrow \Theta_1 \subseteq \Theta_2$

Sei $(x,y) \in \Theta_1$ bel.

$([x]_{\Theta_1}, [y]_{\Theta_1}) = ([x]_{\Theta_1}, [x]_{\Theta_1}) \in \Theta_2/\Theta_1$, da $(x,x) \in \Theta_2$ (reflexiv)

$\Rightarrow (x,y) \in \Theta_2$

also $\Theta_1 \subseteq \Theta_2$