

# t6\_cqc\_the1 (TMbiWuZzjt- SzhAm5aN\_TywbZsZYKWGS4vE9v)

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Let  $m1\_qc\_lang1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k3\_cqc\_lang : \iota \Rightarrow \iota$  be given. Let  $k5\_cqc\_lang : \iota \Rightarrow \iota$  be given. Let  $k1\_cqc\_the1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_qc\_lang1 : \iota \Rightarrow \iota$  be given. Let  $v1\_cqc\_the1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_qc\_lang1 : \iota \Rightarrow \iota$  be given. Let  $k3\_qc\_lang1 : \iota \Rightarrow \iota$  be given. Let  $k8\_cqc\_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_cqc\_lang : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_cqc\_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k11\_cqc\_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k24\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k13\_cqc\_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0.(m1\_qc\_lang1 X0) \Rightarrow (m2\_subset\_1 (k5\_cqc\_lang X0) (k9\_qc\_lang1 X0) (k3\_cqc\_lang X0)) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_qc\_lang1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k3\_cqc\_lang X0)))) \Rightarrow (m1\_subset\_1 (k1\_cqc\_the1 X0 X1) (k1\_zfmisc\_1 (k3\_cqc\_lang X0))) \quad (2)$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k3\_cqc\_lang X0))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k3\_cqc\_lang X0))) \Rightarrow ((X2 = k1\_cqc\_the1 X0 X1) \Leftrightarrow (\forall X3.(m2\_subset\_1 X3 (k9\_qc\_lang1 X0) (k3\_cqc\_lang X0)) \Rightarrow ((X3 \in X2) \Leftrightarrow (\forall X4.(m1\_subset\_1 X4 (k1\_zfmisc\_1 (k3\_cqc\_lang X0))) \Rightarrow (((v1\_cqc\_the1 X4 X0) \wedge (r1\_tarski X1 X4)) \Rightarrow (X3 \in X4)))))))))) \quad (3)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1 \\
& (k3\_cqc\_lang\ X0))) \Rightarrow ((v1\_cqc\_the1\ X1\ X0) \Leftrightarrow ((k5\_cqc\_lang\ X0 \in X1) \wedge \\
& (\forall X2.(m2\_subset\_1\ X2\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0)) \Rightarrow \\
& (\forall X3.(m2\_subset\_1\ X3\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0)) \Rightarrow \\
& (\forall X4.(m2\_subset\_1\ X4\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0)) \Rightarrow \\
& (\forall X5.(m1\_subset\_1\ X5\ (k9\_qc\_lang1\ X0)) \Rightarrow (\forall X6.(m2\_subset\_1 \\
& X6\ (k2\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0)) \Rightarrow (\forall X7.(m2\_subset\_1 \\
& X7\ (k2\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0)) \Rightarrow ((k8\_cqc\_lang\ X0\ (k8\_cqc\_lang \\
& X0\ (k6\_cqc\_lang\ X0\ X2)\ X2) \in X1) \wedge ((k8\_cqc\_lang\ X0\ X2\ (k8\_cqc\_lang \\
& X0\ (k6\_cqc\_lang\ X0\ X2)\ X3) \in X1) \wedge ((k8\_cqc\_lang\ X0\ (k8\_cqc\_lang\ X0 \\
& X2\ X3)\ (k8\_cqc\_lang\ X0\ (k6\_cqc\_lang\ X0\ (k7\_cqc\_lang\ X0\ X3\ X4))\ (k6\_cqc\_lang \\
& X0\ (k7\_cqc\_lang\ X0\ X2\ X4))) \in X1) \wedge ((k8\_cqc\_lang\ X0\ (k7\_cqc\_lang \\
& X0\ X2\ X3)\ (k7\_cqc\_lang\ X0\ X3\ X2) \in X1) \wedge (((X2 \in X1) \wedge (k8\_cqc\_lang\ X0 \\
& X2\ X3 \in X1)) \Rightarrow (X3 \in X1)) \wedge ((k8\_cqc\_lang\ X0\ (k11\_cqc\_lang\ X0\ X6\ X2)\ X2 \in \\
& X1) \wedge (((k8\_cqc\_lang\ X0\ X2\ X3 \in X1) \Rightarrow ((X6 \in k24\_qc\_lang1\ X0\ X2) \vee (k8\_cqc\_lang \\
& X0\ X2\ (k11\_cqc\_lang\ X0\ X6\ X3) \in X1))) \wedge (((k13\_cqc\_lang\ X0\ X5\ X6 \in k3\_cqc\_lang \\
& X0) \wedge ((k13\_cqc\_lang\ X0\ X5\ X7 \in k3\_cqc\_lang\ X0) \wedge (k13\_cqc\_lang\ X0 \\
& X5\ X6 \in X1))) \Rightarrow ((X6 \in k24\_qc\_lang1\ X0\ X5) \vee (k13\_cqc\_lang\ X0\ X5\ X7 \in X1))))))))))))))))) \\
& \tag{4}
\end{aligned}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1 \\
& (k3\_cqc\_lang\ X0))) \Rightarrow (k5\_cqc\_lang\ X0 \in k1\_cqc\_the1\ X0\ X1))
\end{aligned}$$