

# t56\_cqc\_the1 (TMNSGCov- edENNe9hcm1CzaEZNqqpPsvnLMf)

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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  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_qc\_lang1 : \iota \Rightarrow \iota$  be given. Let  $k2\_qc\_lang1 : \iota \Rightarrow \iota$  be given. Let  $k3\_qc\_lang1 : \iota \Rightarrow \iota$  be given. Let  $r3\_cqc\_the1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k8\_cqc\_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k11\_cqc\_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_cqc\_the1 : \iota$  be given. Let  $r2\_cqc\_the1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_cqc\_the1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_cqc\_the1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X2))) \Rightarrow (m1\_subset\_1 X0 X2) \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. (m1\_qc\_lang1 X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ (k3\_cqc\_lang X0))) \Rightarrow (ReplSep (toset (\lambda X2 : \iota. m2\_subset\_1 \\ X2 (k9\_qc\_lang1 X0) (k3\_cqc\_lang X0))) (\lambda X2 : \iota. \exists X3. \\ (m2\_finseq\_1 X3 (k2\_zfmisc\_1 (k3\_cqc\_lang X0) k2\_cqc\_the1))) \wedge \\ ((r2\_cqc\_the1 X0 X1 X3) \wedge (k3\_cqc\_the1 X0 X3 = X2))) (\lambda X2 : \iota. \\ X2) = k1\_cqc\_the1 X0 X1)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. (m1\_qc\_lang1 X0) \Rightarrow (\forall X1. (m2\_subset\_1 X1 (k9\_qc\_lang1 \\ X0) (k3\_cqc\_lang X0)) \Rightarrow (\forall X2. (m2\_subset\_1 X2 (k2\_qc\_lang1 \\ X0) (k3\_qc\_lang1 X0)) \Rightarrow (\forall X3. (m1\_subset\_1 X3 (k1\_zfmisc\_1 \\ (k3\_cqc\_lang X0))) \Rightarrow (k8\_cqc\_lang X0 (k11\_cqc\_lang X0 X2 X1) X1 \in \\ ReplSep (toset (\lambda X4 : \iota. m2\_subset\_1 X4 (k9\_qc\_lang1 X0) (k3\_cqc\_lang \\ X0))) (\lambda X4 : \iota. \exists X5. (m2\_finseq\_1 X5 (k2\_zfmisc\_1 (k3\_cqc\_lang \\ X0) k2\_cqc\_the1))) \wedge ((r2\_cqc\_the1 X0 X3 X5) \wedge (k3\_cqc\_the1 X0 X5 = \\ X4))) (\lambda X4 : \iota. X4)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1 \\ (k3\_cqc\_lang\ X0))) \Rightarrow (r1\_tarski\ (ReplSep\ (toset\ (\lambda X2 : \iota.m2\_subset\_1 \\ X2\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0)))\ (\lambda X2 : \iota.\exists X3. \\ (m2\_finseq\_1\ X3\ (k2\_zfmisc\_1\ (k3\_cqc\_lang\ X0)\ k2\_cqc\_the1))) \wedge \\ ((r2\_cqc\_the1\ X0\ X1\ X3) \wedge (k3\_cqc\_the1\ X0\ X3 = X2)))\ (\lambda X2 : \iota. \\ X2))\ (k3\_cqc\_lang\ X0))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (m1\_subset\_1\ (k3\_cqc\_lang\ X0)\ (k1\_zfmisc\_1 \\ (k9\_qc\_lang1\ X0))) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1 \\ (k3\_cqc\_lang\ X0))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k9\_qc\_lang1 \\ X0)) \Rightarrow ((r3\_cqc\_the1\ X0\ X1\ X2) \Leftrightarrow (X2 \in k1\_cqc\_the1\ X0\ X1)))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski\ X0\ X1) \Leftrightarrow (\forall X2.(X2 \in X0) \Rightarrow \\ (X2 \in X1)) \quad (7)$$

**Theorem 1**

$$\begin{aligned} \forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1 \\ (k3\_cqc\_lang\ X0))) \Rightarrow (\forall X2.(m2\_subset\_1\ X2\ (k9\_qc\_lang1 \\ X0)\ (k3\_cqc\_lang\ X0)) \Rightarrow (\forall X3.(m2\_subset\_1\ X3\ (k2\_qc\_lang1 \\ X0)\ (k3\_qc\_lang1\ X0)) \Rightarrow (r3\_cqc\_the1\ X0\ X1\ (k8\_cqc\_lang\ X0\ (k11\_cqc\_lang \\ X0\ X3\ X2)\ X2)))))) \end{aligned}$$