

t25\_cqc\_the3  
(TMPy7UE2JfNYy39EHDrbjfkvZV8ujx4CMSC)

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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  $r4\_cqc\_the3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_cqc\_the1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.(m1\_qc\_lang1 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ (k3\_cqc\_lang X0))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ (k3\_cqc\_lang X0))) \Rightarrow (k1\_cqc\_the1 X0 (k4\_subset\_1 (k3\_cqc\_lang \\ X0) X1 X2) = k1\_cqc\_the1 X0 (k4\_subset\_1 (k3\_cqc\_lang X0) (k1\_cqc\_the1 \\ X0 X1) (k1\_cqc\_the1 X0 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_qc\_lang1 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ (k3\_cqc\_lang X0))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ (k3\_cqc\_lang X0))) \Rightarrow ((r4\_cqc\_the3 X0 X1 X2) \Leftrightarrow (k1\_cqc\_the1 X0 X1 = \\ k1\_cqc\_the1 X0 X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ X0)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 X0))) \Rightarrow (m1\_subset\_1 (k4\_subset\_1 \\ X0 X1 X2) (k1\_zfmisc\_1 X0)) \end{aligned} \quad (3)$$

**Theorem 1**

$$\begin{aligned} \forall X0.(m1\_qc\_lang1 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ (k3\_cqc\_lang X0))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ (k3\_cqc\_lang X0))) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (k1\_zfmisc\_1 \\ (k3\_cqc\_lang X0))) \Rightarrow ((r4\_cqc\_the3 X0 X1 X2) \Rightarrow (r4\_cqc\_the3 X0 (k4\_subset\_1 \\ (k3\_cqc\_lang X0) X1 X3) (k4\_subset\_1 (k3\_cqc\_lang X0) X2 X3)))))) \end{aligned}$$