

## l5\_cqc\_the2

(TMEni1PrUdeVVmQaWVMFwAFNWHv9ay8FMhY)

October 27, 2020

Let  $m1\_qc\_lang1 : \iota \Rightarrow o$  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  $k3\_cqc\_lang : \iota \Rightarrow \iota$  be given. Let  $v2\_cqc\_the1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k8\_cqc\_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_cqc\_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_cqc\_the1 : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m2\_subset\_1\ X1\ (k9\_qc\_lang1\ X0) \\ (k3\_cqc\_lang\ X0)) \Rightarrow (\forall X2.(m2\_subset\_1\ X2\ (k9\_qc\_lang1\ X0) \\ (k3\_cqc\_lang\ X0)) \Rightarrow (k8\_cqc\_lang\ X0\ (k7\_cqc\_lang\ X0\ X1\ X2)\ X2 \in \\ k4\_cqc\_the1\ X0))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1\_subset\_1\ X0\ X1) \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m2\_subset\_1\ X1\ (k9\_qc\_lang1\ X0) \\ (k3\_cqc\_lang\ X0)) \Rightarrow (\forall X2.(m2\_subset\_1\ X2\ (k9\_qc\_lang1\ X0) \\ (k3\_cqc\_lang\ X0)) \Rightarrow (k8\_cqc\_lang\ X0\ (k7\_cqc\_lang\ X0\ X1\ X2)\ X1 \in \\ k4\_cqc\_the1\ X0))) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0)) \Rightarrow (\forall X2. \\ (X2 \in X1) \Rightarrow (X2 \in X0)) \tag{4}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (m1\_subset\_1\ (k4\_cqc\_the1\ X0)\ (k1\_zfmisc\_1 \\ (k3\_cqc\_lang\ X0))) \tag{5}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (m1\_subset\_1\ (k3\_cqc\_lang\ X0)\ (k1\_zfmisc\_1 \\ (k9\_qc\_lang1\ X0))) \tag{6}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k9\_qc\_lang1 X0) \Rightarrow ((v2\_cqc\_the1 X1 X0) \Leftrightarrow (X1 \in k4\_cqc\_the1 X0)))) \quad (7)$$

**Theorem 1**

$$\forall X0.(m1\_qc\_lang1 X0) \Rightarrow (\forall X1.(m2\_subset\_1 X1 (k9\_qc\_lang1 X0) (k3\_cqc\_lang X0)) \Rightarrow (\forall X2.(m2\_subset\_1 X2 (k9\_qc\_lang1 X0) (k3\_cqc\_lang X0)) \Rightarrow ((v2\_cqc\_the1 (k8\_cqc\_lang X0 (k7\_cqc\_lang X0 X1 X2) X1) X0) \wedge (v2\_cqc\_the1 (k8\_cqc\_lang X0 (k7\_cqc\_lang X0 X1 X2) X2) X0))))))$$