

# t56\_cqc\_the2 (TMXizfqo- QyJWCH2pcMojUDqeGqFKQTTCZXD)

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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_qc\_lang1 : \iota \Rightarrow \iota$  be given. Let  $k3\_qc\_lang1 : \iota \Rightarrow \iota$  be given. Let  $k13\_cqc\_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k24\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $k11\_cqc\_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.(m1\_qc\_lang1 X0) \Rightarrow (\forall X1.(m2\_subset\_1 X1 (k9\_qc\_lang1 \\ X0) (k3\_cqc\_lang X0)) \Rightarrow (\forall X2.(m2\_subset\_1 X2 (k9\_qc\_lang1 \\ X0) (k3\_cqc\_lang X0)) \Rightarrow (\forall X3.(m2\_subset\_1 X3 (k2\_qc\_lang1 \\ X0) (k3\_qc\_lang1 X0)) \Rightarrow ((v2\_cqc\_the1 (k11\_cqc\_lang X0 X3 (k8\_cqc\_lang \\ X0 X1 X2)) X0) \Rightarrow (v2\_cqc\_the1 (k8\_cqc\_lang X0 (k11\_cqc\_lang X0 X3 \\ X1) (k11\_cqc\_lang X0 X3 X2)) X0)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_qc\_lang1 X0) \Rightarrow (\forall X1.(m2\_subset\_1 X1 (k9\_qc\_lang1 \\ X0) (k3\_cqc\_lang X0)) \Rightarrow (\forall X2.(m2\_subset\_1 X2 (k9\_qc\_lang1 \\ X0) (k3\_cqc\_lang X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (k9\_qc\_lang1 \\ X0)) \Rightarrow (\forall X4.(m2\_subset\_1 X4 (k2\_qc\_lang1 X0) (k3\_qc\_lang1 \\ X0)) \Rightarrow (\forall X5.(m2\_subset\_1 X5 (k2\_qc\_lang1 X0) (k3\_qc\_lang1 \\ X0)) \Rightarrow (((X1 = k13\_cqc\_lang X0 X3 X4) \wedge (X2 = k13\_cqc\_lang X0 X3 X5)) \Rightarrow \\ ((X4 \in k24\_qc\_lang1 X0 X3) \vee (v2\_cqc\_the1 (k8\_cqc\_lang X0 (k11\_cqc\_lang \\ X0 X4 X1) X2) X0))))))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_qc\_lang1 X0) \Rightarrow (\forall X1.(m2\_subset\_1 X1 (k9\_qc\_lang1 \\ X0) (k3\_cqc\_lang X0)) \Rightarrow (\forall X2.(m2\_subset\_1 X2 (k2\_qc\_lang1 \\ X0) (k3\_qc\_lang1 X0)) \Rightarrow ((v2\_cqc\_the1 X1 X0) \Rightarrow (v2\_cqc\_the1 (k11\_cqc\_lang \\ X0 X2 X1) X0)))) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((\neg v1\_xboole\_0 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))))\Rightarrow(\forall X2.(m2\_subset\_1 X2 X0 X1)\Leftrightarrow(m1\_subset\_1 X2 X1)) \quad (4)$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1 X0)\Rightarrow(\neg v1\_xboole\_0 (k3\_qc\_lang1 X0)) \quad (5)$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1 X0)\Rightarrow(\neg v1\_xboole\_0 (k3\_cqc\_lang X0)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_qc\_lang1 X0)\wedge((m1\_subset\_1 X1 (k3\_cqc\_lang X0))\wedge(m1\_subset\_1 X2 (k3\_cqc\_lang X0))))\Rightarrow(m2\_subset\_1 (k8\_cqc\_lang X0 X1 X2) (k9\_qc\_lang1 X0) (k3\_cqc\_lang X0)) \quad (7)$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1 X0)\Rightarrow(m1\_subset\_1 (k3\_qc\_lang1 X0) (k1\_zfmisc\_1 (k2\_qc\_lang1 X0))) \quad (8)$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1 X0)\Rightarrow(m1\_subset\_1 (k3\_cqc\_lang X0) (k1\_zfmisc\_1 (k9\_qc\_lang1 X0))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_qc\_lang1 X0)\wedge((m1\_subset\_1 X1 (k3\_qc\_lang1 X0))\wedge(m1\_subset\_1 X2 (k3\_cqc\_lang X0))))\Rightarrow(m2\_subset\_1 (k11\_cqc\_lang X0 X1 X2) (k9\_qc\_lang1 X0) (k3\_cqc\_lang X0)) \quad (10)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))\Rightarrow(v1\_xboole\_0 X1)) \quad (11)$$

**Theorem 1**

$$\begin{aligned} &\forall X0.(m1\_qc\_lang1 X0)\Rightarrow(\forall X1.(m2\_subset\_1 X1 (k9\_qc\_lang1 X0) (k3\_cqc\_lang X0))\Rightarrow(\forall X2.(m2\_subset\_1 X2 (k9\_qc\_lang1 X0) (k3\_cqc\_lang X0))\Rightarrow(\forall X3.(m1\_subset\_1 X3 (k9\_qc\_lang1 X0))\Rightarrow(\forall X4.(m2\_subset\_1 X4 (k2\_qc\_lang1 X0) (k3\_qc\_lang1 X0))\Rightarrow(\forall X5.(m2\_subset\_1 X5 (k2\_qc\_lang1 X0) (k3\_qc\_lang1 X0))\Rightarrow(((X1 = k13\_cqc\_lang X0 X3 X4)\wedge(X2 = k13\_cqc\_lang X0 X3 X5))\Rightarrow((X5 \in k24\_qc\_lang1 X0 X3)\vee(v2\_cqc\_the1 (k8\_cqc\_lang X0 (k11\_cqc\_lang X0 X4 (k11\_cqc\_lang X0 X5 X2)) (k11\_cqc\_lang X0 X4 X1)) X0)))))))))) \end{aligned}$$