

# t3\_qc\_lang2 (TM- RnxD9nWK9JKcVetg8sWY169zSqEnAfxaL)

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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  $k9\_qc\_lang1 : \iota \Rightarrow \iota$  be given. Let  $v4\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k14\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k19\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k20\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.(m1\_qc\_lang1 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k9\_qc\_lang1 \\ X0)) \Rightarrow ((v4\_qc\_lang1 X1 X0) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (k9\_qc\_lang1 \\ X0)) \Rightarrow ((X2 = k20\_qc\_lang1 X0 X1) \Leftrightarrow (\exists X3.(m1\_subset\_1 X3 (k9\_qc\_lang1 \\ X0)) \wedge (X1 = k14\_qc\_lang1 X0 X3 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_qc\_lang1 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k9\_qc\_lang1 \\ X0)) \Rightarrow ((v4\_qc\_lang1 X1 X0) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (k9\_qc\_lang1 \\ X0)) \Rightarrow ((X2 = k19\_qc\_lang1 X0 X1) \Leftrightarrow (\exists X3.(m1\_subset\_1 X3 (k9\_qc\_lang1 \\ X0)) \wedge (X1 = k14\_qc\_lang1 X0 X2 X3)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_qc\_lang1 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k9\_qc\_lang1 \\ X0)) \Rightarrow ((v4\_qc\_lang1 X1 X0) \Leftrightarrow (\exists X2.(m1\_subset\_1 X2 (k9\_qc\_lang1 \\ X0)) \wedge (\exists X3.(m1\_subset\_1 X3 (k9\_qc\_lang1 X0)) \wedge (X1 = k14\_qc\_lang1 \\ X0 X2 X3)))))) \end{aligned} \quad (3)$$

## Theorem 1

$$\begin{aligned} \forall X0.(m1\_qc\_lang1 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k9\_qc\_lang1 \\ X0)) \Rightarrow ((v4\_qc\_lang1 X1 X0) \Rightarrow (X1 = k14\_qc\_lang1 X0 (k19\_qc\_lang1 \\ X0 X1) (k20\_qc\_lang1 X0 X1)))) \end{aligned}$$