t31_qc_lang2 (TMGYg-Mayp4hgzcNdvz2eU55FM988Dhwk7Uv)

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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 $k13\_qc\_lang2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_qc\_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k14\_qc\_lang2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k19\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_qc\_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k20\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k14\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12\_qc\_lang2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11\_qc\_lang2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k18\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k9\_qc\_lang1\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k9\_qc\_lang1\ X0)) \Rightarrow ((k19\_qc\_lang1\ X0\ (k14\_qc\_lang1\ X0\ X1\ X2) = X1) \wedge (k20\_qc\_lang1\ X0\ (k14\_qc\_lang1\ X0\ X1\ X2) = X2))))) \tag{1}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k9\_qc\_lang1\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k9\_qc\_lang1\ X0)) \Rightarrow ((k12\_qc\_lang2\ X0\ (k2\_qc\_lang2\ X0\ X1\ X2) = X1) \wedge ((k11\_qc\_lang2\ X0\ (k2\_qc\_lang2\ X0\ X1\ X2) = X2) \wedge (k18\_qc\_lang1\ X0\ (k2\_qc\_lang2\ X0\ X1\ X2) = k14\_qc\_lang1\ X0\ X1\ (k13\_qc\_lang1\ X0\ X2)))))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_qc\_lang1\ X0) \wedge ((m1\_subset\_1\ X1\ (k9\_qc\_lang1\ X0)) \wedge (m1\_subset\_1\ X2\ (k9\_qc\_lang1\ X0)))) \Rightarrow (m1\_subset\_1\ (k2\_qc\_lang2\ X0\ X1\ X2)\ (k9\_qc\_lang1\ X0)) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_qc\_lang1\ X0) \wedge ((m1\_subset\_1\ X1\ (k9\_qc\_lang1\ X0)) \wedge (m1\_subset\_1\ X2\ (k9\_qc\_lang1\ X0)))) \Rightarrow (m1\_subset\_1\ (k14\_qc\_lang1\ X0\ X1\ X2)\ (k9\_qc\_lang1\ X0)) \tag{4}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k9\_qc\_lang1\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k9\_qc\_lang1\ X0))\Rightarrow(k4\_qc\_lang2\ X0\ X1\ X2 = k14\_qc\_lang1\ X0\ (k2\_qc\_lang2\ X0\ X1\ X2)\ (k2\_qc\_lang2\ X0\ X2\ X1)))))\tag{5}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k9\_qc\_lang1\ X0))\Rightarrow(k14\_qc\_lang2\ X0\ X1 = k11\_qc\_lang2\ X0\ (k19\_qc\_lang1\ X0\ X1)))\tag{6}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k9\_qc\_lang1\ X0))\Rightarrow(k13\_qc\_lang2\ X0\ X1 = k12\_qc\_lang2\ X0\ (k19\_qc\_lang1\ X0\ X1)))\tag{7}$$

Theorem 1

$$\forall X0.(m1\_qc\_lang1\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k9\_qc\_lang1\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k9\_qc\_lang1\ X0))\Rightarrow((k13\_qc\_lang2\ X0\ (k4\_qc\_lang2\ X0\ X1\ X2) = X1)\wedge((k14\_qc\_lang2\ X0\ (k4\_qc\_lang2\ X0\ X1\ X2) = X2)\wedge((k19\_qc\_lang1\ X0\ (k4\_qc\_lang2\ X0\ X1\ X2) = k2\_qc\_lang2\ X0\ X1\ X2)\wedge(k20\_qc\_lang1\ X0\ (k4\_qc\_lang2\ X0\ X1\ X2) = k2\_qc\_lang2\ X0\ X2\ X1))))))$$