t14_qc_lang3 (TMMwErejkEkuE16H82EiC2gfvtaMeQR4DCn)

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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 $k24\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_qc\_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_qc\_lang1 : \iota \Rightarrow \iota$ be given. Let $k10\_qc\_lang2 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k14\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_qc\_lang2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k9\_qc\_lang1\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k9\_qc\_lang1\ X0)) \Rightarrow ((k10\_qc\_lang2\ X0\ (k3\_qc\_lang2\ X0\ X1\ X2) = X1) \wedge ((k11\_qc\_lang2\ X0\ (k3\_qc\_lang2\ X0\ X1\ X2) = X2) \wedge (k18\_qc\_lang1\ X0\ (k3\_qc\_lang2\ X0\ X1\ X2) = k14\_qc\_lang1\ X0\ (k13\_qc\_lang1\ X0\ X1)\ (k13\_qc\_lang1\ X0\ X2))))))) \tag{1}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k9\_qc\_lang1\ X0)) \Rightarrow ((v1\_qc\_lang2\ X1\ X0) \Rightarrow (k24\_qc\_lang1\ X0\ X1 = k4\_subset\_1\ (k3\_qc\_lang1\ X0)\ (k24\_qc\_lang1\ X0\ (k10\_qc\_lang2\ X0\ X1))\ (k24\_qc\_lang1\ X0\ (k11\_qc\_lang2\ X0\ X1))))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_qc\_lang1\ X0) \wedge ((m1\_subset\_1\ X1\ (k9\_qc\_lang1\ X0)) \wedge (m1\_subset\_1\ X2\ (k9\_qc\_lang1\ X0)))) \Rightarrow (m1\_subset\_1\ (k3\_qc\_lang2\ X0\ X1\ X2)\ (k9\_qc\_lang1\ X0)) \tag{3}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k9\_qc\_lang1\ X0)) \Rightarrow ((v1\_qc\_lang2\ X1\ X0) \Leftrightarrow (\exists X2.(m1\_subset\_1\ X2\ (k9\_qc\_lang1\ X0)) \wedge (\exists X3.(m1\_subset\_1\ X3\ (k9\_qc\_lang1\ X0)) \wedge (X1 = k3\_qc\_lang2\ X0\ X2\ X3))))) \tag{4}$$

Theorem 1

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k9\_qc\_lang1\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k9\_qc\_lang1\ X0)) \Rightarrow (k24\_qc\_lang1\ X0\ (k3\_qc\_lang2\ X0\ X1\ X2) = k4\_subset\_1\ (k3\_qc\_lang1\ X0)\ (k24\_qc\_lang1\ X0\ X1)\ (k24\_qc\_lang1\ X0\ X2))))$$