l27_cqc_lang (TMFnyo-Gdtp7U4SViXAZQUxgJfd3KwHXXuL9)

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Let $m1\_qc\_lang1 : \iota \Rightarrow o$ be given. Let $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_qc\_lang1 : \iota \Rightarrow \iota$ be given. Let $k3\_qc\_lang1 : \iota \Rightarrow \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9\_qc\_lang1 : \iota \Rightarrow \iota$ be given. Let $v5\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k13\_cqc\_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k21\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k22\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_cqc\_lang : \iota \Rightarrow \iota$ be given. Let $v2\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_cqc\_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k17\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_cqc\_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_qc\_lang3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_numbers : \iota$ be given. Let $v3\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k13\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k18\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0) \wedge ((\neg v1\_xboole\_0\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0)))) \Rightarrow (\forall X2.(m2\_subset\_1\ X2\ X0\ X1) \Leftrightarrow (m1\_subset\_1\ X2\ X1)) \tag{1}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\neg v1\_xboole\_0\ (k3\_qc\_lang1\ X0)) \tag{2}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\neg v1\_xboole\_0\ (k2\_qc\_lang1\ X0)) \tag{3}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (m1\_subset\_1\ (k3\_qc\_lang1\ X0)\ (k1\_zfmisc\_1\ (k2\_qc\_lang1\ X0))) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((m1\_qc\_lang1\ X0)\wedge(m1\_subset\_1\ X1\ (k9\_qc\_lang1\ X0)))\Rightarrow(m1\_subset\_1\ (k22\_qc\_lang1\ X0\ X1)\ (k9\_qc\_lang1\ X0)) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((m1\_qc\_lang1\ X0)\wedge(m1\_subset\_1\ X1\ (k9\_qc\_lang1\ X0)))\Rightarrow(m2\_subset\_1\ (k21\_qc\_lang1\ X0\ X1)\ (k2\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0)) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_qc\_lang1\ X0)\wedge((m1\_subset\_1\ X1\ (k3\_qc\_lang1\ X0))\wedge(m1\_subset\_1\ X2\ (k9\_qc\_lang1\ X0))))\Rightarrow(m1\_subset\_1\ (k15\_qc\_lang1\ X0\ X1\ X2)\ (k9\_qc\_lang1\ X0)) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((m1\_subset\_1\ X3\ X0)\wedge(m1\_subset\_1\ X4\ X0))\Rightarrow(m1\_subset\_1\ (k15\_funcop\_1\ X0\ X1\ X2\ X3\ X4)\ X0) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_qc\_lang1\ X0)\wedge((m1\_subset\_1\ X1\ (k9\_qc\_lang1\ X0))\wedge(m1\_subset\_1\ X2\ (k3\_qc\_lang1\ X0))))\Rightarrow(m1\_subset\_1\ (k13\_cqc\_lang\ X0\ X1\ X2)\ (k9\_qc\_lang1\ X0)) \tag{9}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k9\_qc\_lang1\ X0))\Rightarrow(\forall X2.(m2\_subset\_1\ X2\ (k2\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (k9\_qc\_lang1\ X0))\Rightarrow((X3 = k13\_cqc\_lang\ X0\ X1\ X2)\Leftrightarrow(\exists X4.((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ (k9\_qc\_lang1\ X0)\ (k9\_qc\_lang1\ X0))\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k9\_qc\_lang1\ X0)\ (k9\_qc\_lang1\ X0))))))\wedge((X3 = k3\_funct\_2\ (k9\_qc\_lang1\ X0)\ (k9\_qc\_lang1\ X0)\ X4\ X1)\wedge(\forall X5.(m1\_subset\_1\ X5\ (k9\_qc\_lang1\ X0))\Rightarrow((k3\_funct\_2\ (k9\_qc\_lang1\ X0)\ (k9\_qc\_lang1\ X0)\ X4\ (k5\_cqc\_lang\ X0) = k5\_cqc\_lang\ X0)\wedge(((v2\_qc\_lang1\ X5\ X0)\Rightarrow(k3\_funct\_2\ (k9\_qc\_lang1\ X0)\ (k9\_qc\_lang1\ X0)\ X4\ X5 = k10\_qc\_lang1\ X0\ (k16\_qc\_lang1\ X0\ X5)\ (k1\_cqc\_lang\ X0\ (k17\_qc\_lang1\ X0\ X5)\ (k2\_cqc\_lang\ X0\ (k3\_qc\_lang3\ X0\ k6\_numbers)\ X2))))\wedge(((v3\_qc\_lang1\ X5\ X0)\Rightarrow(k3\_funct\_2\ (k9\_qc\_lang1\ X0)\ (k9\_qc\_lang1\ X0)\ X4\ X5 = k13\_qc\_lang1\ X0\ (k3\_funct\_2\ (k9\_qc\_lang1\ X0)\ (k9\_qc\_lang1\ X0)\ X4\ (k18\_qc\_lang1\ X0\ X5))))\wedge(((v4\_qc\_lang1\ X5\ X0)\Rightarrow(k3\_funct\_2\ (k9\_qc\_lang1\ X0)\ (k9\_qc\_lang1\ X0)\ X4\ X5 = k14\_qc\_lang1\ X0\ (k3\_funct\_2\ (k9\_qc\_lang1\ X0)\ (k9\_qc\_lang1\ X0)\ X4\ (k19\_qc\_lang1\ X0\ X5))\ (k3\_funct\_2\ (k9\_qc\_lang1\ X0)\ (k9\_qc\_lang1\ X0)\ X4\ (k20\_qc\_lang1\ X0\ X5))))\wedge((v5\_qc\_lang1\ X5\ X0)\Rightarrow(k3\_funct\_2\ (k9\_qc\_lang1\ X0)\ (k9\_qc\_lang1\ X0)\ X4\ X5 = k15\_funcop\_1\ (k9\_qc\_lang1\ X0)\ (k21\_qc\_lang1\ X0\ X5)\ X2\ X5\ (k15\_qc\_lang1\ X0\ (k21\_qc\_lang1\ X0\ X5)\ (k3\_funct\_2\ (k9\_qc\_lang1\ X0)\ (k9\_qc\_lang1\ X0)\ X4\ (k22\_qc\_lang1\ X0\ X5))))))))))))))) \tag{10}$$

Theorem 1

$$\forall X0.(m1\_qc\_lang1\ X0)\Rightarrow(\forall X1.(m2\_subset\_1\ X1\ (k2\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k9\_qc\_lang1\ X0))\Rightarrow((v5\_qc\_lang1\ X2\ X0)\Rightarrow(k13\_cqc\_lang\ X0\ X2\ X1 = k15\_funcop\_1\ (k9\_qc\_lang1\ X0)\ (k21\_qc\_lang1\ X0\ X2)\ X1\ X2\ (k15\_qc\_lang1\ X0\ (k21\_qc\_lang1\ X0\ X2)\ (k13\_cqc\_lang\ X0\ (k22\_qc\_lang1\ X0\ X2)\ X1))))))$$