

t5\_qc\_lang3  
(TMRfxDk6upTpRh1C8Ds8Ukz1kxL16QBCx4t)

October 27, 2020

Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $m1\_qc\_lang1 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_qc\_lang1 : \iota \Rightarrow \iota$  be given. Let  $k8\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_card\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_qc\_lang1 : \iota \Rightarrow \iota$  be given. Let  $k24\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k23\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_qc\_lang1 : \iota \Rightarrow \iota$  be given. Let  $v2\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k17\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k9\_qc\_lang1 \\ X0)) \Rightarrow ((v2\_qc\_lang1\ X1\ X0) \Rightarrow (k24\_qc\_lang1\ X0\ X1 = k23\_qc\_lang1\ X0 \\ (k17\_qc\_lang1\ X0\ X1)))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1\ X1\ X0) \Leftrightarrow (m1\_finseq\_1\ X1\ X0) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1\ X0\ k5\_numbers) \wedge (m1\_qc\_lang1\ X1)) \Rightarrow (\neg v1\_xboole\_0\ (k8\_qc\_lang1\ X1\ X0)) \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1\_xboole\_0\ X0) \wedge ((\neg v1\_xboole\_0\ X1) \wedge \\ (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0)))) \Rightarrow (\forall X2.(m2\_subset\_1 \\ X2\ X0\ X1) \Rightarrow (m1\_subset\_1\ X2\ X0)) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((m1\_qc\_lang1\ X0) \wedge (m1\_subset\_1\ X1\ k5\_numbers)) \Rightarrow (m1\_subset\_1\ (k8\_qc\_lang1\ X0\ X1)\ (k1\_zfmisc\_1\ (k6\_qc\_lang1\ X0))) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_qc\_lang1\ X0)\wedge((m1\_subset\_1\ X1\ (k6\_qc\_lang1\ X0))\wedge(m1\_finseq\_1\ X2\ (k2\_qc\_lang1\ X0))))\Rightarrow(m1\_subset\_1\ (k10\_qc\_lang1\ X0\ X1\ X2)\ (k9\_qc\_lang1\ X0)) \quad (6)$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k9\_qc\_lang1\ X0))\Rightarrow((v2\_qc\_lang1\ X1\ X0)\Rightarrow(\forall X2.(m2\_finseq\_1\ X2\ (k2\_qc\_lang1\ X0))\Rightarrow((X2 = k17\_qc\_lang1\ X0\ X1)\Leftrightarrow(\exists X3.(m1\_subset\_1\ X3\ k5\_numbers)\wedge(\exists X4.(m2\_subset\_1\ X4\ (k6\_qc\_lang1\ X0)\ (k8\_qc\_lang1\ X0\ X3))\wedge(\exists X5.((v3\_card\_1\ X5\ X3)\wedge(m2\_finseq\_1\ X5\ (k2\_qc\_lang1\ X0)))\wedge((X2 = X5)\wedge(X1 = k10\_qc\_lang1\ X0\ X4\ X5)))))))))) \quad (7)$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k9\_qc\_lang1\ X0))\Rightarrow((v2\_qc\_lang1\ X1\ X0)\Leftrightarrow(\exists X2.(m1\_subset\_1\ X2\ k5\_numbers)\wedge(\exists X3.(m2\_subset\_1\ X3\ (k6\_qc\_lang1\ X0)\ (k8\_qc\_lang1\ X0\ X2))\wedge(\exists X4.((v3\_card\_1\ X4\ X2)\wedge(m2\_finseq\_1\ X4\ (k2\_qc\_lang1\ X0)))\wedge(X1 = k10\_qc\_lang1\ X0\ X3\ X4)))))) \quad (8)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\Rightarrow(v1\_xboole\_0\ X1)) \quad (9)$$

**Theorem 1**

$$\forall X0.(m1\_subset\_1\ X0\ k5\_numbers)\Rightarrow(\forall X1.(m1\_qc\_lang1\ X1)\Rightarrow(\forall X2.(m2\_subset\_1\ X2\ (k6\_qc\_lang1\ X1)\ (k8\_qc\_lang1\ X1\ X0))\Rightarrow(\forall X3.((v3\_card\_1\ X3\ X0)\wedge(m2\_finseq\_1\ X3\ (k2\_qc\_lang1\ X1))))\Rightarrow(k24\_qc\_lang1\ X1\ (k10\_qc\_lang1\ X1\ X2\ X3) = k23\_qc\_lang1\ X1\ X3)))$$