

# t9\_substut1 (TMFX- MuocM2knYHijW34gbnpE1n7BGpJihcQ)

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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  $k1\_substut1 : \iota \Rightarrow \iota$  be given. Let  $k5\_numbers : \iota$  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  $k17\_substut1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_qc\_lang1 : \iota \Rightarrow \iota$  be given. Let  $k10\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_card\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1\_qc\_lang1 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 k5\_numbers) \Rightarrow \\ & (\forall X2.(m2\_subset\_1 X2 (k6\_qc\_lang1 X0) (k8\_qc\_lang1 X0 X1)) \Rightarrow \\ & (k7\_qc\_lang1 X0 X2 = X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow (k3\_finseq\_1 X0 = k1\_card\_1 X0) \quad (2)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.v1\_relat\_1 (k2\_zfmisc\_1 X0 X1) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2.(m2\_subset\_1 \\ & X2 X0 X1) \Rightarrow (m1\_subset\_1 X2 X0)) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1 X1 X0)\Rightarrow((v1\_funct\_1 X1)\wedge((v1\_finseq\_1 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers X0)))))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_qc\_lang1 X0)\wedge(m1\_subset\_1 X1 k5\_numbers))\Rightarrow(m1\_subset\_1 (k8\_qc\_lang1 X0 X1) (k1\_zfmisc\_1 (k6\_qc\_lang1 X0))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(v3\_card\_1 X1 X0)\Leftrightarrow(k1\_card\_1 X1 = X0) \quad (8)$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1 X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k6\_qc\_lang1 X0))\Rightarrow(\forall X2.(m2\_finseq\_1 X2 (k2\_qc\_lang1 X0))\Rightarrow(\forall X3.(m1\_subset\_1 X3 (k1\_substut1 X0))\Rightarrow((k7\_qc\_lang1 X0 X1 = k3\_finseq\_1 X2)\Rightarrow(k17\_substut1 X0 X1 X2 X3 = k1\_domain\_1 (k9\_qc\_lang1 X0) (k1\_substut1 X0) (k10\_qc\_lang1 X0 X1 X2) X3)))))) \quad (9)$$

Assume the following.

$$\forall X0.(v1\_relat\_1 X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))\Rightarrow(v1\_relat\_1 X1)) \quad (10)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))\Rightarrow(v1\_xboole\_0 X1)) \quad (11)$$

**Theorem 1**

$$\forall X0.(m1\_qc\_lang1 X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k1\_substut1 X0))\Rightarrow(\forall X2.(m1\_subset\_1 X2 k5\_numbers)\Rightarrow(\forall X3.(m2\_subset\_1 X3 (k6\_qc\_lang1 X0) (k8\_qc\_lang1 X0 X2))\Rightarrow(\forall X4.((v3\_card\_1 X4 X2)\wedge(m2\_finseq\_1 X4 (k2\_qc\_lang1 X0))\Rightarrow(k17\_substut1 X0 X3 X4 X1 = k1\_domain\_1 (k9\_qc\_lang1 X0) (k1\_substut1 X0) (k10\_qc\_lang1 X0 X3 X4) X1))))))$$