

t32\_cqc\_the1  
(TMT1FEz368zt7tkB56BN1EupEUCNpiyziyP)

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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  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k3\_cqc\_lang : \iota \Rightarrow \iota$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_cqc\_the1 : \iota$  be given. Let  $r2\_cqc\_the1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_cqc\_the1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_cqc\_the1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_1 : \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k11\_arytm\_3 : \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $r1\_cqc\_the1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_9 : \iota$  be given. Let  $k1\_xxreal\_0 : \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1\_qc\_lang1 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 k5\_numbers) \Rightarrow \\ & \quad (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k3\_cqc\_lang X0))) \Rightarrow \\ & \quad (\forall X3.(m2\_finseq\_1 X3 (k2\_zfmisc\_1 (k3\_cqc\_lang X0) k2\_cqc\_the1)) \Rightarrow \\ & \quad \quad (((r2\_cqc\_the1 X0 X2 X3) \wedge ((r1\_xxreal\_0 np\_1 X1) \wedge (r1\_xxreal\_0 \\ & \quad \quad X1 (k3\_finseq\_1 X3)))) \Rightarrow (k1\_xtuple\_0 (k1\_funct\_1 X3 X1) \in k1\_cqc\_the1 \\ & \quad \quad \quad X0 X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_qc\_lang1 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & \quad (k3\_cqc\_lang X0))) \Rightarrow (\forall X2.(m2\_finseq\_1 X2 (k2\_zfmisc\_1 \\ & \quad (k3\_cqc\_lang X0) k2\_cqc\_the1)) \Rightarrow ((r2\_cqc\_the1 X0 X1 X2) \Rightarrow (r1\_xxreal\_0 \\ & \quad \quad np\_1 (k3\_finseq\_1 X2)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow (r1\_xxreal\_0 X0 X0) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((\neg v1\_xboole\_0 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))))\Rightarrow(\forall X2.(m2\_subset\_1 X2 X0 X1)\Leftrightarrow(m1\_subset\_1 X2 X1)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1 X1 X0)\Leftrightarrow(m1\_finseq\_1 X1 X0) \quad (5)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (6)$$

Assume the following.

$$k11\_arytm\_3 = k1\_xboole\_0 \quad (7)$$

Assume the following.

$$(\neg v1\_xboole\_0 k4\_ordinal1)\wedge(v3\_ordinal1 k4\_ordinal1) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1 X1 X0)\Rightarrow((v1\_funct\_1 X1)\wedge((v1\_finseq\_1 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers X0)))))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_1 X1 X0)\Rightarrow((v1\_relat\_1 X1)\wedge((v1\_funct\_1 X1)\wedge(v1\_finseq\_1 X1))) \quad (10)$$

Assume the following.

$$m1\_subset\_1 k5\_numbers (k1\_zfmisc\_1 k1\_numbers) \quad (11)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v1\_finseq\_1 X0)))\Rightarrow(m2\_subset\_1 (k3\_finseq\_1 X0) k1\_numbers k5\_numbers) \quad (12)$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1 X0)\Rightarrow(\forall X1.(m2\_finseq\_1 X1 (k2\_zfmisc\_1 (k3\_cqc\_lang X0) k2\_cqc\_the1))\Rightarrow((X1\neq k1\_xboole\_0)\Rightarrow(k3\_cqc\_the1 X0 X1 = k1\_xtuple\_0 (k1\_funct\_1 X1 (k3\_finseq\_1 X1)))))) \quad (13)$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1 X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k3\_cqc\_lang X0)))\Rightarrow(\forall X2.(m2\_finseq\_1 X2 (k2\_zfmisc\_1 (k3\_cqc\_lang X0) k2\_cqc\_the1))\Rightarrow((r2\_cqc\_the1 X0 X1 X2)\Leftrightarrow((X2\neq k1\_xboole\_0)\wedge(\forall X3.(m1\_subset\_1 X3 k5\_numbers)\Rightarrow(((r1\_xreal\_0 np\_1 X3)\wedge(r1\_xreal\_0 X3 (k3\_finseq\_1 X2))\Rightarrow(r1\_cqc\_the1 X0 X2 X3 X1)))))))))) \quad (14)$$

Assume the following.

$$k2\_cqc\_the1 = ReplSep (toset (\lambda X0 : \iota.m1\_subset\_1 X0 k5\_numbers)) \\ (\lambda X0 : \iota.r1\_xxreal\_0 X0 np\_9) (\lambda X0 : \iota.X0) \quad (15)$$

Assume the following.

$$k1\_xxreal\_0 = k1\_numbers \quad (16)$$

Assume the following.

$$k1\_xboole\_0 = the (\lambda X0 : \iota.v1\_xboole\_0 X0) \quad (17)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1) \Rightarrow (v7\_ordinal1 X0) \quad (18)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (v1\_xxreal\_0 X0) \quad (19)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ X0)) \Rightarrow (v1\_xboole\_0 X1)) \quad (20)$$

**Theorem 1**

$$\forall X0.(m1\_qc\_lang1 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ (k3\_cqc\_lang X0))) \Rightarrow (\forall X2.(m2\_finseq\_1 X2 (k2\_zfmisc\_1 \\ (k3\_cqc\_lang X0) k2\_cqc\_the1)) \Rightarrow ((r2\_cqc\_the1 X0 X1 X2) \Rightarrow (k3\_cqc\_the1 \\ X0 X2 \in k1\_cqc\_the1 X0 X1))))))$$