

t23_cqc_the1

(TMX7afQMm1sTTefCCUXT5bALcyHpe61PQDk)

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Let $m1_qc_lang1 : \iota \Rightarrow o$ 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 $k3_cqc_lang : \iota \Rightarrow \iota$ be given. Let $k2_cqc_the1 : \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ 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 $k2_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $np_2 : \iota$ be given. Let $np_3 : \iota$ be given. Let $np_4 : \iota$ be given. Let $np_5 : \iota$ be given. Let $np_6 : \iota$ be given. Let $np_7 : \iota$ be given. Let $np_8 : \iota$ be given. Let $np_9 : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $np_0 : \iota$ 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 $k5_numbers : \iota$ be given. Let $k4_ordinal1 : \iota$ 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 $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1_xboole_0 X1) \quad (1)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. (v7_ordinal1\ X0) \Rightarrow & (\neg(r1_xxreal_0\ X0\ np_9) \wedge ((X0 \neq k6_numbers) \wedge \\ & ((X0 \neq np_1) \wedge ((X0 \neq np_2) \wedge ((X0 \neq np_3) \wedge ((X0 \neq np_4) \wedge ((X0 \neq np_5) \wedge \\ & ((X0 \neq np_6) \wedge ((X0 \neq np_7) \wedge ((X0 \neq np_8) \wedge (X0 \neq np_9)))))))))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1\ X0\ X1) \Rightarrow ((v1_xboole_0\ X1) \vee (X0 \in X1)) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0. (v7_ordinal1\ X0) \Rightarrow & (\forall X1. (v7_ordinal1\ X1) \Rightarrow ((\\ X0 \in k2_finseq_1\ X1) \Leftrightarrow & ((r1_xxreal_0\ np_1\ X0) \wedge (r1_xxreal_0\ X0\ X1)))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (X0 \in k2_zfmisc_1\ X1\ X2) \Rightarrow ((k1_xtuple_0\ X0 \in X1) \wedge (k2_xtuple_0\ X0 \in X2)) \quad (8)$$

Assume the following.

$$v1_xboole_0\ np_0 \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((\neg v1_xboole_0\ X0) \wedge & ((\neg v1_xboole_0\ X1) \wedge \\ (m1_subset_1\ X1\ (k1_zfmisc_1\ X0)))) & \Rightarrow (\forall X2. (m2_subset_1\ X2\ X0\ X1) \Leftrightarrow (m1_subset_1\ X2\ X1)) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1\ X1\ X0) \Leftrightarrow (m1_finseq_1\ X1\ X0) \quad (11)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (12)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (13)$$

Assume the following.

$$(\neg v1_xboole_0\ k4_ordinal1) \wedge (v3_ordinal1\ k4_ordinal1) \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (m2_finseq_1\ X1\ X0) \Rightarrow & ((v1_funct_1\ X1) \wedge (\\ (v1_finseq_1\ X1) \wedge (m1_subset_1\ X1\ & (k1_zfmisc_1\ (k2_zfmisc_1\ k5_numbers\ X0)))))) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0. \forall X1. (m1_finseq_1 X1 X0) \Rightarrow ((v1_relat_1 X1) \wedge (v1_funct_1 X1) \wedge (v1_finseq_1 X1)) \quad (16)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (17)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow (m2_subset_1 (k3_finseq_1 X0) k1_numbers k5_numbers) \quad (18)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 X1))) \Rightarrow ((m1_finseq_1 X1 X0) \Leftrightarrow (r1_tarski (k10_xtuple_0 X1) X0)) \quad (19)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. (X1 = k10_xtuple_0 X0) \Leftrightarrow (\forall X2. (X2 \in X1) \Leftrightarrow (\exists X3. (X3 \in k9_xtuple_0 X0) \wedge (X2 = k1_funct_1 X0 X3)))) \quad (20)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow (\forall X1. (m2_subset_1 X1 k1_numbers k5_numbers) \Rightarrow ((X1 = k3_finseq_1 X0) \Leftrightarrow (k2_finseq_1 X1 = k9_xtuple_0 X0))) \quad (21)$$

Assume the following.

$$k2_cqc_the1 = ReplSep (toset (\lambda X0 : \iota. m1_subset_1 X0 k5_numbers)) (\lambda X0 : \iota. r1_xxreal_0 X0 np_9) (\lambda X0 : \iota. X0) \quad (22)$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (23)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_xboole_0 X1)) \quad (24)$$

Theorem 1

$$\begin{aligned}
& \forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(m2_finseq_1\ X1\ (k2_zfmisc_1 \\
& \quad (k3_cqc_lang\ X0)\ k2_cqc_the1)) \Rightarrow (\forall X2.(v7_ordinal1\ X2) \Rightarrow \\
& \quad (\neg(r1_xxreal_0\ np_1\ X2) \wedge (r1_xxreal_0\ X2\ (k3_finseq_1\ X1)) \wedge \\
& \quad ((k2_xtuple_0\ (k1_funct_1\ X1\ X2) \neq k6_numbers) \wedge ((k2_xtuple_0 \\
& \quad (k1_funct_1\ X1\ X2) \neq np_1) \wedge ((k2_xtuple_0\ (k1_funct_1\ X1\ X2) \neq np_2) \wedge \\
& \quad ((k2_xtuple_0\ (k1_funct_1\ X1\ X2) \neq np_3) \wedge ((k2_xtuple_0\ (k1_funct_1 \\
& \quad X1\ X2) \neq np_4) \wedge ((k2_xtuple_0\ (k1_funct_1\ X1\ X2) \neq np_5) \wedge ((k2_xtuple_0 \\
& \quad (k1_funct_1\ X1\ X2) \neq np_6) \wedge ((k2_xtuple_0\ (k1_funct_1\ X1\ X2) \neq np_7) \wedge \\
& \quad ((k2_xtuple_0\ (k1_funct_1\ X1\ X2) \neq np_8) \wedge (k2_xtuple_0\ (k1_funct_1 \\
& \quad \quad X1\ X2) \neq np_9)))))))))))))
\end{aligned}$$