

t29_taxonom1

(TMRV16bm767hEwpinrb9AhW3yMzJPBuLAoK)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $v3_xxreal_0 : \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $r1_relat_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_taxonom1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_metric_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_taxonom1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k13_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_relat_2 : \iota \Rightarrow o$ be given. Let $v8_relat_2 : \iota \Rightarrow o$ be given. Let $r2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_partit1 : \iota \Rightarrow \iota$ be given. Let $k8_eqrel_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge (\\ & m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) k1_numbers)))) \Rightarrow \\ & (\forall X2. (v1_xreal_0 X2) \Rightarrow (((r1_relat_2 (k1_taxonom1 X0 X1 \\ & X2) X0) \wedge (v4_metric_1 X1 X0)) \Rightarrow ((v1_partfun1 (k13_lang1 X0 (k1_taxonom1 \\ & X0 X1 X2)) X0) \wedge ((v3_relat_2 (k13_lang1 X0 (k1_taxonom1 X0 X1 X2))) \wedge \\ & ((v8_relat_2 (k13_lang1 X0 (k1_taxonom1 X0 X1 X2))) \wedge (m1_subset_1 \\ & (k13_lang1 X0 (k1_taxonom1 X0 X1 X2)) (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X0)))))))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((m1_subset_1 X2 \\ & (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))) \Rightarrow ((r2_relset_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((v1_funct_1 X1) \wedge (\\ & m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) k1_numbers)))) \Rightarrow \\ & (m1_subset_1 (k2_taxonom1 X0 X1) (k1_zfmisc_1 (k1_partit1 X0)))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge (\\
& m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) k1_numbers)))) \Rightarrow \\
& (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k1_partit1 X0))) \Rightarrow (\\
& (X2 = k2_taxonom1 X0 X1) \Leftrightarrow (\forall X3.(X3 \in X2) \Leftrightarrow (\exists X4.((\neg v3_xxreal_0 \\
& X4) \wedge (v1_xreal_0 X4)) \wedge (\exists X5.((v1_partfun1 X5 X0) \wedge ((v3_relat_2 \\
& X5) \wedge ((v8_relat_2 X5) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 X0)))))) \wedge ((r2_rset_1 X0 X0 X5 (k13_lang1 X0 (k1_taxonom1 X0 \\
& X1 X4))) \wedge (k8_eqrel_1 X0 X5 = X3))))))))) \\
& \hspace{15em} (5)
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge (\\
& m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) k1_numbers)))) \Rightarrow \\
& (\forall X2.((\neg v3_xxreal_0 X2) \wedge (v1_xreal_0 X2)) \Rightarrow (((r1_relat_2 \\
& (k1_taxonom1 X0 X1 X2) X0) \wedge (v4_metric_1 X1 X0)) \Rightarrow (\neg v1_xboole_0 \\
& (k2_taxonom1 X0 X1))))))
\end{aligned}$$