

t21_taxonom1 (TMZXbJn-
rTttq1Wop7wBM4Mq6QmmcW7Bz4rb)

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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 $v2_metric_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_metric_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_taxonom1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $np_0 : \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k1_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (1)$$

Assume the following.

$$v1_xboole_0 np_0 \quad (2)$$

Assume the following.

$$r1_xxreal_0 np_0 np_0 \quad (3)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (4)$$

Assume the following.

$$\exists X0.(v1_xboole_0 X0) \wedge ((v1_xcmplx_0 X0) \wedge ((v1_xxreal_0 X0) \wedge (v1_xreal_0 X0))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0) \wedge ((v1_funct_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) k1_numbers)))) \wedge (v1_xreal_0 X2))) \Rightarrow (m1_subset_1 (k1_taxonom1 X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.k4_tarski X0 X1 = k2_tarski (k2_tarski X0 X1) (k1_tarski X0) \quad (7)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge (\\
& m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) k1_numbers)))) \Rightarrow \\
& (\forall X2.(v1_xreal_0 X2) \Rightarrow (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 X0))) \Rightarrow ((X3 = k1_taxonom1 X0 X1 X2) \Leftrightarrow (\forall X4. \\
& (m1_subset_1 X4 X0) \Rightarrow (\forall X5.(m1_subset_1 X5 X0) \Rightarrow ((k4_tarski \\
& X4 X5 \in X3) \Leftrightarrow (r1_xreal_0 (k1_metric_1 X0 X0 X1 X4 X5) X2))))))))) \\
& \tag{8}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((v1_funct_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
& (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) k1_numbers)))) \Rightarrow ((v2_metric_1 \\
& X1 X0) \Leftrightarrow (\forall X2.(m1_subset_1 X2 X0) \Rightarrow (k1_metric_1 X0 X0 X1 X2 \\
& X2 = k6_numbers))) \tag{9}
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge (\\
& m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) k1_numbers)))) \Rightarrow \\
& (\forall X2.(m1_subset_1 X2 X0) \Rightarrow (((v2_metric_1 X1 X0) \wedge (v3_metric_1 \\
& X1 X0)) \Rightarrow (k4_tarski X2 X2 \in k1_taxonom1 X0 X1 k6_numbers))))
\end{aligned}$$