

t77_chord
(TMZEaVxSN4S3zRovbcgyTsotcpvGoF6S2PC)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_glib_000 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_glib_000 : \iota \Rightarrow \iota$ be given. Let $r1_chord : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_chord : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_glib_000 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k21_glib_000 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_glib_000 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k24_glib_000 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m3_glib_001 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_glib_001 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k25_glib_000 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r5_glib_000 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

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

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (2)$$

Assume the following.

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

Assume the following.

$$\forall X0. \forall X1. r1_tarski X0 X0 \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. k6_subset_1 X0 X1 = k4_xboole_0 X0 X1 \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge \\ & ((v1_funct_1 X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \wedge (m1_glib_000 \\ & X1 X0) \Rightarrow (k24_glib_000 X0 X1 = k6_glib_000 X1) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 \ k5_numbers) \wedge ((v1_funct_1 X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\neg v1_xboole_0 (k6_glib_000 X0)) \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 \ k5_numbers) \wedge ((v1_funct_1 X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X3. (m2_glib_000 X3 X0 X1 X2) \Rightarrow (m1_glib_000 X3 X0)) \quad (8)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (((v1_relat_1 X0) \wedge ((v4_relat_1 X0 \ k5_numbers) \wedge ((v1_funct_1 X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \wedge ((m1_subset_1 X1 (k6_glib_000 X0)) \wedge (m1_subset_1 X2 (k6_glib_000 X0))) \Rightarrow (\forall X3. (m2_chord X3 X0 X1 X2) \Rightarrow (m1_subset_1 X3 (k1_zfmisc_1 (k6_glib_000 X0)))) \quad (9)$$

Assume the following.

$$\forall X0. \forall X1. m1_subset_1 (k6_subset_1 X0 X1) (k1_zfmisc_1 X0) \quad (10)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 \ k5_numbers) \wedge ((v1_funct_1 X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (k6_glib_000 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (k6_glib_000 X0)) \Rightarrow (\neg (X1 \neq X2) \wedge ((\neg r1_chord X0 X1 X2) \wedge (\neg \forall X3. (m1_subset_1 X3 (k1_zfmisc_1 (k6_glib_000 X0))) \Rightarrow ((m2_chord X3 X0 X1 X2) \Leftrightarrow ((\neg X1 \in X3) \wedge (\neg X2 \in X3) \wedge (\forall X4. (m2_glib_000 X4 X0 (k6_subset_1 (k6_glib_000 X0) X3) (k21_glib_000 X0 (k6_subset_1 (k6_glib_000 X0) X3))) \Rightarrow (\forall X5. (m3_glib_001 X5 X4) \Rightarrow (\neg r1_glib_001 X4 X1 X2 X5)))))))))) \quad (11)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (X2 = k4_xboole_0 X0 X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (\neg X3 \in X1))) \quad (12)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\
& \quad X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1. \forall X2. \\
& \quad \forall X3.(m1_glib_000 X3 X0) \Rightarrow (((\neg(v1_xboole_0 X1) \wedge (m1_subset_1 \\
& \quad X1 (k1_zfmisc_1 (k6_glib_000 X0)))) \wedge (r1_tarski X2 (k21_glib_000 \\
& \quad X0 X1))) \Rightarrow ((m2_glib_000 X3 X0 X1 X2) \Leftrightarrow ((k24_glib_000 X0 X3 = X1) \wedge (\\
& \quad k25_glib_000 X0 X3 = X2)))) \wedge ((\neg(\neg(v1_xboole_0 X1) \wedge (m1_subset_1 \\
& \quad X1 (k1_zfmisc_1 (k6_glib_000 X0)))) \wedge (r1_tarski X2 (k21_glib_000 \\
& \quad X0 X1))) \Rightarrow ((m2_glib_000 X3 X0 X1 X2) \Leftrightarrow (r5_glib_000 X3 X0))))))
\end{aligned} \tag{13}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\
& \quad X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1.(m1_subset_1 \\
& \quad X1 (k6_glib_000 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k6_glib_000 \\
& \quad X0)) \Rightarrow (\neg(X1 \neq X2) \wedge ((\neg r1_chord X0 X1 X2) \wedge (\neg \forall X3.(m2_chord \\
& \quad X3 X0 X1 X2) \Rightarrow (\forall X4.(m2_glib_000 X4 X0 (k6_subset_1 (k6_glib_000 \\
& \quad X0) X3) (k21_glib_000 X0 (k6_subset_1 (k6_glib_000 X0) X3))) \Rightarrow (\\
& \quad (m1_subset_1 X1 (k6_glib_000 X4)) \wedge (m1_subset_1 X2 (k6_glib_000 \\
& \quad X4))))))))))
\end{aligned}$$