

t41_transgeo
(TMGaqqBnrmLkSCRL1Qs1jDXb1u5LFgtu8oF)

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Let $v7_struct_0 : \iota \Rightarrow o$ be given. Let $v2_analoaf : \iota \Rightarrow o$ be given. Let $l1_analoaf : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $v4_transgeo : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_diraf : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_funct_1 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v2_funct_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 X0 X0) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))) \Rightarrow ((v2_funct_1 \\ & X1) \Rightarrow (\forall X2. \forall X3. ((X2 \in X0) \wedge ((X3 \in X0) \wedge (k1_funct_1 X1 \\ & X2 = k1_funct_1 X1 X3))) \Rightarrow (X2 = X3))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v7_struct_0 X0) \wedge ((v2_analoaf X0) \wedge (l1_analoaf \\ & X0))) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (u1_struct_0 \\ & X0) (u1_struct_0 X0)) \wedge ((v3_funct_2 X1 (u1_struct_0 X0) (u1_struct_0 \\ & X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 \\ & X0) (u1_struct_0 X0)))))) \Rightarrow ((v4_transgeo X1 X0) \Leftrightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. (m1_subset_1 X3 \\ & (u1_struct_0 X0)) \Rightarrow (r2_diraf X0 X2 X3 (k3_funct_2 (u1_struct_0 \\ & X0) (u1_struct_0 X0) X1 X2) (k3_funct_2 (u1_struct_0 X0) (u1_struct_0 \\ & X0) X1 X3)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v7_struct_0 X0) \wedge ((v2_analoaf X0) \wedge (l1_analoaf \\
& \quad X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
& \quad (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\
& \quad (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\
& \quad (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (\forall X6.(m1_subset_1 \\
& \quad X6 (u1_struct_0 X0)) \Rightarrow (\neg(X1 \neq X2) \wedge ((\neg(\neg(r2_diraf X0 X1 X2 X3 X4) \wedge \\
& \quad (r2_diraf X0 X1 X2 X5 X6)) \wedge ((\neg(r2_diraf X0 X1 X2 X3 X4) \wedge (r2_diraf \\
& \quad X0 X5 X6 X1 X2)) \wedge ((\neg(r2_diraf X0 X3 X4 X1 X2) \wedge (r2_diraf X0 X5 X6 X1 X2)) \wedge \\
& \quad (\neg(r2_diraf X0 X3 X4 X1 X2) \wedge (r2_diraf X0 X1 X2 X5 X6)))))) \wedge (\neg r2_diraf \\
& \quad X0 X3 X4 X5 X6)))))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v7_struct_0 X0) \wedge ((v2_analoaf X0) \wedge (l1_analoaf \\
& \quad X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
& \quad (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\
& \quad (u1_struct_0 X0)) \Rightarrow ((r2_diraf X0 X1 X2 X3 X3) \wedge (r2_diraf X0 X3 X3 X1 \\
& \quad X2))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge \\
& (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\
& \quad (k2_zfmisc_1 X0 X1)))))) \wedge (m1_subset_1 X3 X0))) \Rightarrow (k3_funct_2 X0 \\
& \quad X1 X2 X3 = k1_funct_1 X2 X3)
\end{aligned} \tag{6}$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \tag{7}$$

Assume the following.

$$\forall X0.(l1_analoaf X0) \Rightarrow (l1_struct_0 X0) \tag{8}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge \\
& (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\
& \quad (k2_zfmisc_1 X0 X1)))))) \wedge (m1_subset_1 X3 X0))) \Rightarrow (m1_subset_1 (\\
& \quad k3_funct_2 X0 X1 X2 X3) X1)
\end{aligned} \tag{9}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 \\
& \quad (k2_zfmisc_1 X0 X1))) \Rightarrow (((v1_funct_1 X2) \wedge (v3_funct_2 X2 X0 X1)) \Rightarrow \\
& \quad ((v1_funct_1 X2) \wedge ((v2_funct_1 X2) \wedge (v2_funct_2 X2 X1))))
\end{aligned} \tag{10}$$

Assume the following.

$$\forall X0.(l1_struct_0 X0) \Rightarrow ((\neg v7_struct_0 X0) \Rightarrow (\neg v2_struct_0 X0)) \quad (11)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v7_struct_0 X0) \wedge ((v2_analoaf X0) \wedge (l1_analoaf \\ & X0))) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (u1_struct_0 \\ & X0) (u1_struct_0 X0)) \wedge ((v3_funct_2 X1 (u1_struct_0 X0) (u1_struct_0 \\ & X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 \\ & X0) (u1_struct_0 X0))))))) \Rightarrow ((v4_transgeo X1 X0) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\ & (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\ & (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow ((r2_diraf X0 X2 \\ & X3 X4 X5) \Leftrightarrow (r2_diraf X0 (k3_funct_2 (u1_struct_0 X0) (u1_struct_0 \\ & X0) X1 X2) (k3_funct_2 (u1_struct_0 X0) (u1_struct_0 X0) X1 X3) (\\ & k3_funct_2 (u1_struct_0 X0) (u1_struct_0 X0) X1 X4) (k3_funct_2 \\ & (u1_struct_0 X0) (u1_struct_0 X0) X1 X5)))))))))) \end{aligned}$$