

t50_transgeo

(TMU5y1ZjssPBaQ1MYRuoKgb1NzcnYH8582p)

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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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ 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 $v3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_transgeo : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r3_diraf : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_diraf : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_transgeo : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_partfun1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v7_struct_0 X0) \wedge ((v2_analoaf X0) \wedge (l1_analoaf X0))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
 & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. (m1_subset_1 X3 \\
 & (u1_struct_0 X0)) \Rightarrow (\forall X4. (m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\
 & (\forall X5. (m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (((r2_diraf X0 \\
 & X1 X2 X3 X4) \wedge ((r2_diraf X0 X1 X2 X3 X5) \wedge ((r2_diraf X0 X1 X3 X2 X4) \wedge (\\
 & r2_diraf X0 X1 X3 X2 X5)))))) \Rightarrow ((r3_diraf X0 X1 X2 X3) \vee (X4 = X5))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v7_struct_0 X0) \wedge ((v2_analoaf X0) \wedge (l1_analoaf X0))) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (u1_struct_0 X0) \\
 & (u1_struct_0 X0)) \wedge ((v3_funct_2 X1 (u1_struct_0 X0) (u1_struct_0 X0) \\
 & X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) \\
 & X0) (u1_struct_0 X0)))))) \Rightarrow ((v4_transgeo X1 X0) \Rightarrow ((v5_transgeo X1 X0) \Leftrightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
 & (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (r2_diraf X0 X2 (k3_funct_2 (u1_struct_0 X0) (u1_struct_0 X0) X1 X2) X3 (k3_funct_2 (u1_struct_0 X0) (u1_struct_0 X0) X1 X3))))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v7_struct_0 X0) \wedge ((v2_analoaf X0) \wedge (l1_analoaf \\ & X0))) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (u1_struct_0 \\ & X0) (u1_struct_0 X0)) \wedge ((v3_funct_2 X1 (u1_struct_0 X0) (u1_struct_0 \\ & X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 \\ & X0) (u1_struct_0 X0)))))) \Rightarrow ((v4_transgeo X1 X0) \Leftrightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\ & (u1_struct_0 X0)) \Rightarrow (r2_diraf X0 X2 X3 (k3_funct_2 (u1_struct_0 \\ & X0) (u1_struct_0 X0) X1 X2) (k3_funct_2 (u1_struct_0 X0) (u1_struct_0 \\ & X0) X1 X3)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \quad (4)$$

Assume the following.

$$\forall X0.(l1_analoaf X0) \Rightarrow (l1_struct_0 X0) \quad (5)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v7_struct_0 X0) \wedge ((v2_analoaf X0) \wedge (l1_analoaf \\ & X0))) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (u1_struct_0 \\ & X0) (u1_struct_0 X0)) \wedge ((v3_funct_2 X1 (u1_struct_0 X0) (u1_struct_0 \\ & X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 \\ & X0) (u1_struct_0 X0)))))) \Rightarrow ((v5_transgeo X1 X0) \Leftrightarrow ((v4_transgeo \\ & X1 X0) \wedge ((r2_funct_2 (u1_struct_0 X0) (u1_struct_0 X0) X1 (k6_partfun1 \\ & (u1_struct_0 X0))) \vee (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\ & X0)) \Rightarrow (X2 \neq k3_funct_2 (u1_struct_0 X0) (u1_struct_0 X0) X1 X2)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(l1_struct_0 X0) \Rightarrow ((v2_struct_0 X0) \Rightarrow (v7_struct_0 X0)) \quad (8)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v7_struct_0 X0) \wedge ((v2_analoaf X0) \wedge (l1_analoaf \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge \\ & ((v1_funct_2 X3 (u1_struct_0 X0) (u1_struct_0 X0)) \wedge ((v3_funct_2 \\ & X3 (u1_struct_0 X0) (u1_struct_0 X0)) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)))))) \Rightarrow (\forall X4. \\ & ((v1_funct_1 X4) \wedge ((v1_funct_2 X4 (u1_struct_0 X0) (u1_struct_0 \\ & X0)) \wedge ((v3_funct_2 X4 (u1_struct_0 X0) (u1_struct_0 X0)) \wedge (m1_subset_1 \\ & X4 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)))))) \Rightarrow \\ & (((v5_transgeo X3 X0) \wedge ((v5_transgeo X4 X0) \wedge (k3_funct_2 (u1_struct_0 \\ & X0) (u1_struct_0 X0) X3 X1 = k3_funct_2 (u1_struct_0 X0) (u1_struct_0 \\ & X0) X4 X1))) \Rightarrow ((r3_diraf X0 X1 (k3_funct_2 (u1_struct_0 X0) (u1_struct_0 \\ & X0) X3 X1) X2) \vee (k3_funct_2 (u1_struct_0 X0) (u1_struct_0 X0) X3 \\ & X2 = k3_funct_2 (u1_struct_0 X0) (u1_struct_0 X0) X4 X2)))))) \end{aligned}$$