

t84\_transgeo (TM-  
SNt7SGj35CHnTHpDPJT3A9rRKhTZpPnWw)

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Let  $v7\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_diraf : \iota \Rightarrow o$  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  $v8\_transgeo : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_aff\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r2\_analoaf : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  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. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v7\_struct\_0 X0) \wedge ((v1\_diraf X0) \wedge (l1\_analoaf X0))) \Rightarrow \\
& (\forall X1.((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 (u1\_struct\_0 X0) \\
& (u1\_struct\_0 X0)) \wedge ((v3\_funct\_2 X1 (u1\_struct\_0 X0) (u1\_struct\_0 \\
& X0)) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 \\
& X0) (u1\_struct\_0 X0))))))) \Rightarrow ((v8\_transgeo X1 X0) \Leftrightarrow (\forall X2. \\
& (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 \\
& (u1\_struct\_0 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow \\
& (\forall X5.(m1\_subset\_1 X5 (u1\_struct\_0 X0)) \Rightarrow ((r2\_analoaf X0 \\
& X2 X3 X4 X5) \Leftrightarrow (r2\_analoaf X0 (k3\_funct\_2 (u1\_struct\_0 X0) (u1\_struct\_0 \\
& X0) X1 X2) (k3\_funct\_2 (u1\_struct\_0 X0) (u1\_struct\_0 X0) X1 X3) ( \\
& k3\_funct\_2 (u1\_struct\_0 X0) (u1\_struct\_0 X0) X1 X4) (k3\_funct\_2 \\
& (u1\_struct\_0 X0) (u1\_struct\_0 X0) X1 X5))))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_struct\_0 X0)) \Rightarrow (\neg v1\_xboole\_0 (u1\_struct\_0 X0)) \tag{2}$$

Assume the following.

$$\forall X0.(l1\_analoaf X0) \Rightarrow (l1\_struct\_0 X0) \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0 X0)\wedge \\ & (((v1\_funct\_1 X2)\wedge((v1\_funct\_2 X2 X0 X1)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1))))))\wedge(m1\_subset\_1 X3 X0))\Rightarrow(m1\_subset\_1 ( \\ & k3\_funct\_2 X0 X1 X2 X3) X1) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v7\_struct\_0 X0)\wedge((v1\_diraf X0)\wedge(l1\_analoaf X0)))\Rightarrow \\ & (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0))\Rightarrow(\forall X2.(m1\_subset\_1 \\ & X2 (u1\_struct\_0 X0))\Rightarrow(\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 \\ & X0))\Rightarrow((r1\_aff\_1 X0 X1 X2 X3)\Leftrightarrow(r2\_analoaf X0 X1 X2 X1 X3)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.(l1\_struct\_0 X0)\Rightarrow((v2\_struct\_0 X0)\Rightarrow(v7\_struct\_0 X0)) \quad (6)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v7\_struct\_0 X0)\wedge((v1\_diraf X0)\wedge(l1\_analoaf X0)))\Rightarrow \\ & (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0))\Rightarrow(\forall X2.(m1\_subset\_1 \\ & X2 (u1\_struct\_0 X0))\Rightarrow(\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 \\ & X0))\Rightarrow(\forall X4.((v1\_funct\_1 X4)\wedge((v1\_funct\_2 X4 (u1\_struct\_0 \\ & X0) (u1\_struct\_0 X0))\wedge((v3\_funct\_2 X4 (u1\_struct\_0 X0) (u1\_struct\_0 \\ & X0))\wedge(m1\_subset\_1 X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 \\ & X0) (u1\_struct\_0 X0))))))\Rightarrow((v8\_transgeo X4 X0)\Rightarrow((r1\_aff\_1 X0 \\ & X1 X2 X3)\Leftrightarrow(r1\_aff\_1 X0 (k3\_funct\_2 (u1\_struct\_0 X0) (u1\_struct\_0 \\ & X0) X4 X1) (k3\_funct\_2 (u1\_struct\_0 X0) (u1\_struct\_0 X0) X4 X2) ( \\ & k3\_funct\_2 (u1\_struct\_0 X0) (u1\_struct\_0 X0) X4 X3)))))))))) \end{aligned}$$