

t5\_transgeo  
(TMMc5rudHCn5r4XgojmUorkf3tbLYJHKtrT)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  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  $v3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  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  $r2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_transgeo : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((v1\_funct\_1 X1) \wedge ( \\ & (v1\_funct\_2 X1 X0 X0) \wedge ((v3\_funct\_2 X1 X0 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X0)))))) \Rightarrow (\forall X2. ((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 \\ & X2 X0 X0) \wedge ((v3\_funct\_2 X2 X0 X0) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 ( \\ & k2\_zfmisc\_1 X0 X0)))))) \Rightarrow (\forall X3. ((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 \\ & X3 X0 X0) \wedge ((v3\_funct\_2 X3 X0 X0) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 ( \\ & k2\_zfmisc\_1 X0 X0)))))) \Rightarrow ((r2\_funct\_2 X0 X0 (k1\_transgeo X0 X2 X1) \\ & (k1\_transgeo X0 X2 X3)) \Rightarrow (r2\_funct\_2 X0 X0 X1 X3)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((v1\_funct\_1 X1) \wedge ( \\ & (v1\_funct\_2 X1 X0 X0) \wedge ((v3\_funct\_2 X1 X0 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X0)))))) \Rightarrow (\forall X2. ((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 \\ & X2 X0 X0) \wedge ((v3\_funct\_2 X2 X0 X0) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 ( \\ & k2\_zfmisc\_1 X0 X0)))))) \Rightarrow (\forall X3. ((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 \\ & X3 X0 X0) \wedge ((v3\_funct\_2 X3 X0 X0) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 ( \\ & k2\_zfmisc\_1 X0 X0)))))) \Rightarrow ((r2\_funct\_2 X0 X0 (k1\_transgeo X0 X2 X1) \\ & (k1\_transgeo X0 X3 X1)) \Rightarrow (r2\_funct\_2 X0 X0 X2 X3)))))) \end{aligned} \quad (2)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge ( \\ & (v1\_funct\_2 X1 X0 X0) \wedge (v3\_funct\_2 X1 X0 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X0)))))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 \\ & X2 X0 X0) \wedge (v3\_funct\_2 X2 X0 X0) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 ( \\ & k2\_zfmisc\_1 X0 X0)))))) \Rightarrow (\forall X3.((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 \\ & X3 X0 X0) \wedge (v3\_funct\_2 X3 X0 X0) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 ( \\ & k2\_zfmisc\_1 X0 X0)))))) \Rightarrow (((r2\_funct\_2 X0 X0 (k1\_transgeo X0 X2 \\ & X1) (k1\_transgeo X0 X2 X3)) \vee (r2\_funct\_2 X0 X0 (k1\_transgeo X0 X1 \\ & X2) (k1\_transgeo X0 X3 X2))) \Rightarrow (r2\_funct\_2 X0 X0 X1 X3)))) \end{aligned}$$