

t13\_gobrd14 (TM-  
MuWXQmmt3jGCMhsQVW49YLuyVUeUVbx4x)

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Let  $v3\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_6 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k15\_euclid : \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $v1\_topreal1 : \iota \Rightarrow o$  be given. Let  $v2\_topreal1 : \iota \Rightarrow o$  be given. Let  $v1\_goboard5 : \iota \Rightarrow o$  be given. Let  $v2\_goboard5 : \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k3\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_topreal1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_connsp\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_goboard9 : \iota \Rightarrow \iota$  be given. Let  $k2\_goboard9 : \iota \Rightarrow \iota$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v6\_membered : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $l1\_rltopsp1 : \iota \Rightarrow o$  be given. Let  $l1\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v5\_rltopsp1 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(l1\_pre\_topc X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (u1\_struct\_0 (k1\_pre\_topc X0 X1) = X1)) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.r1\_tarski X0 (k2\_xboole\_0 X0 X1) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X0 (k1\_zfmisc\_1 X1)) \Leftrightarrow (r1\_tarski X0 X1) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v3\_funct\_1 X0) \wedge ((\neg v1\_xboole\_0 X0) \wedge ((v1\_finseq\_6 \\ & X0 (u1\_struct\_0 (k15\_euclid np\_2))) \wedge ((v1\_topreal1 X0) \wedge ((v2\_topreal1 \\ & X0) \wedge ((v1\_goboard5 X0) \wedge ((v2\_goboard5 X0) \wedge (m2\_finseq\_1 X0 (u1\_struct\_0 \\ & (k15\_euclid np\_2)))))))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (u1\_struct\_0 (k1\_pre\_topc (k15\_euclid np\_2) (k3\_subset\_1 (u1\_struct\_0 \\ & (k15\_euclid np\_2)) (k3\_topreal1 np\_2 X0)))))) \Rightarrow (\neg(v3\_connsp\_1 \\ & X1 (k1\_pre\_topc (k15\_euclid np\_2) (k3\_subset\_1 (u1\_struct\_0 \\ & (k15\_euclid np\_2)) (k3\_topreal1 np\_2 X0)))) \wedge ((X1 \neq k3\_goboard9 \\ & X0) \wedge (X1 \neq k2\_goboard9 X0)))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 np\_2) \wedge (m2\_subset\_1 np\_2 k1\_numbers k5\_numbers)) \wedge \\ & ((m1\_subset\_1 np\_2 k5\_numbers) \wedge (m1\_subset\_1 np\_2 k1\_numbers)) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \quad (6)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & X0)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 X0))) \Rightarrow (k4\_subset\_1 X0 X1 X2 = \\ & k2\_xboole\_0 X1 X2) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0. \forall X1. k3\_xboole\_0 X0 X0 = X0 \quad (9)$$

Assume the following.

$$v6\_membered k4\_ordinal1 \quad (10)$$

Assume the following.

$$v1\_xboole\_0 k1\_xboole\_0 \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1\_xboole\_0 X0) \wedge ((\neg v3\_funct\_1 X0) \wedge ((v1\_finseq\_6 \\ & X0 (u1\_struct\_0 (k15\_euclid np\_2))) \wedge ((v1\_topreal1 X0) \wedge ((v2\_topreal1 \\ & X0) \wedge ((v1\_goboard5 X0) \wedge ((v2\_goboard5 X0) \wedge (m1\_finseq\_1 X0 (u1\_struct\_0 \\ & (k15\_euclid np\_2)))))))))) \Rightarrow (\neg v1\_xboole\_0 (k3\_goboard9 X0)) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v1\_xboole\_0 X0) \wedge ((\neg v3\_funct\_1 X0) \wedge ((v1\_finseq\_6 \\ X0 (u1\_struct\_0 (k15\_euclid np\_2))) \wedge ((v1\_topreal1 X0) \wedge ((v2\_topreal1 \\ X0) \wedge ((v1\_goboard5 X0) \wedge ((v2\_goboard5 X0) \wedge (m1\_finseq\_1 X0 (u1\_struct\_0 \\ (k15\_euclid np\_2)))))))))) \Rightarrow (\neg v1\_xboole\_0 (k2\_goboard9 X0)) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.(l1\_rltopsp1 X0) \Rightarrow ((l1\_rlvect\_1 X0) \wedge (l1\_pre\_topc X0)) \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v7\_ordinal1 X0) \wedge (m1\_finseq\_1 X1 (u1\_struct\_0 \\ (k15\_euclid X0)))) \Rightarrow (m1\_subset\_1 (k3\_topreal1 X0 X1) (k1\_zfmisc\_1 \\ (u1\_struct\_0 (k15\_euclid X0)))) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (m1\_subset\_1 \\ (k3\_subset\_1 X0 X1) (k1\_zfmisc\_1 X0)) \quad (16)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow ((v5\_rltopsp1 (k15\_euclid X0)) \wedge \\ (l1\_rltopsp1 (k15\_euclid X0))) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.(r1\_xboole\_0 X0 X1) \Leftrightarrow (k3\_xboole\_0 X0 X1 = \\ k1\_xboole\_0) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.k2\_xboole\_0 X0 X1 = k2\_xboole\_0 X1 X0 \quad (19)$$

Assume the following.

$$\forall X0.(v6\_membered X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow \\ (v7\_ordinal1 X1)) \quad (20)$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((\neg v3\_funct\_1 X0) \wedge (\neg v1\_xboole\_0 X0) \wedge ((v1\_finseq\_6 \\
& X0 (u1\_struct\_0 (k15\_euclid np\_2))) \wedge ((v1\_topreal1 X0) \wedge ((v2\_topreal1 \\
& X0) \wedge ((v1\_goboard5 X0) \wedge ((v2\_goboard5 X0) \wedge (m2\_finseq\_1 X0 (u1\_struct\_0 \\
& (k15\_euclid np\_2)))))))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\
& (u1\_struct\_0 (k15\_euclid np\_2)))) \Rightarrow (\forall X2.(m1\_subset\_1 \\
& X2 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))) \Rightarrow (\neg(k3\_subset\_1 \\
& (u1\_struct\_0 (k15\_euclid np\_2)) (k3\_topreal1 np\_2 X0) = k4\_subset\_1 \\
& (u1\_struct\_0 (k15\_euclid np\_2)) X1 X2) \wedge ((r1\_xboole\_0 X1 X2) \wedge \\
& ((\forall X3.(m1\_subset\_1 X3 (k1\_zfmisc\_1 (u1\_struct\_0 (k1\_pre\_topc \\
& (k15\_euclid np\_2)) (k3\_subset\_1 (u1\_struct\_0 (k15\_euclid np\_2)) \\
& (k3\_topreal1 np\_2 X0)))))) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (k1\_zfmisc\_1 \\
& (u1\_struct\_0 (k1\_pre\_topc (k15\_euclid np\_2)) (k3\_subset\_1 (u1\_struct\_0 \\
& (k15\_euclid np\_2)) (k3\_topreal1 np\_2 X0)))))) \Rightarrow (((X3 = X1) \wedge ( \\
& X4 = X2)) \Rightarrow ((v3\_connsp\_1 X3 (k1\_pre\_topc (k15\_euclid np\_2)) (k3\_subset\_1 \\
& (u1\_struct\_0 (k15\_euclid np\_2)) (k3\_topreal1 np\_2 X0)))) \wedge ( \\
& v3\_connsp\_1 X4 (k1\_pre\_topc (k15\_euclid np\_2)) (k3\_subset\_1 ( \\
& u1\_struct\_0 (k15\_euclid np\_2)) (k3\_topreal1 np\_2 X0)))))) \wedge \\
& ((\neg(X1 = k3\_goboard9 X0) \wedge (X2 = k2\_goboard9 X0)) \wedge (\neg(X1 = k2\_goboard9 \\
& X0) \wedge (X2 = k3\_goboard9 X0))))))
\end{aligned}$$