

# t1\_gobrd12 (TMEu- TYgmyo7NHTsKd2MydjuUoWabHd6DaEQ)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v3\_funct\_1 : \iota \Rightarrow o$  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  $k5\_numbers : \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_goboard2 : \iota \Rightarrow \iota$  be given. Let  $k1\_matrix\_1 : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_tops\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_goboard5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_topreal1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v6\_membered : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $l1\_rltopsp1 : \iota \Rightarrow o$  be given. Let  $l1\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_matrix\_1 : \iota \Rightarrow o$  be given. Let  $k3\_finseq\_2 : \iota \Rightarrow \iota$  be given. Let  $v5\_rltopsp1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (\forall X2. \\ & (m1\_subset\_1 X2 (k1\_zfmisc\_1 X0)) \Rightarrow ((r1\_xboole\_0 X1 X2) \Leftrightarrow (r1\_tarski \\ & X1 (k3\_subset\_1 X0 X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1\_xboole\_0 X0) \wedge (m2\_finseq\_1 X0 (u1\_struct\_0 ( \\ & k15\_euclid np\_2)))) \Rightarrow (\forall X1. (m2\_subset\_1 X1 k1\_numbers \\ & k5\_numbers) \Rightarrow (\forall X2. (m2\_subset\_1 X2 k1\_numbers k5\_numbers) \Rightarrow \\ & (((v1\_topreal1 X0) \wedge ((r1\_xxreal\_0 X1 (k3\_finseq\_1 (k2\_goboard2 \\ & X0))) \wedge (r1\_xxreal\_0 X2 (k1\_matrix\_1 (k2\_goboard2 X0)))))) \Rightarrow (r1\_xboole\_0 \\ & (k1\_tops\_1 (k15\_euclid np\_2) (k3\_goboard5 (k2\_goboard2 X0) X1 \\ & X2)) (k3\_topreal1 np\_2 X0)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & ((v2\_xreal\_0 \ np\_2) \wedge (m2\_subset\_1 \ np\_2 \ k1\_numbers \ k5\_numbers)) \wedge \\ & ((m1\_subset\_1 \ np\_2 \ k5\_numbers) \wedge (m1\_subset\_1 \ np\_2 \ k1\_numbers)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1\_xboole\_0 \ X0) \wedge ((\neg v1\_xboole\_0 \ X1) \wedge \\ & (m1\_subset\_1 \ X1 \ (k1\_zfmisc\_1 \ X0)))) \Rightarrow (\forall X2. (m2\_subset\_1 \\ & \ X2 \ X0 \ X1) \Leftrightarrow (m1\_subset\_1 \ X2 \ X1)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 \ X1 \ X0) \Leftrightarrow (m1\_finseq\_1 \ X1 \ X0) \quad (5)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (6)$$

Assume the following.

$$v6\_membered \ k4\_ordinal1 \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m2\_finseq\_1 \ X1 \ X0) \Rightarrow ((v1\_funct\_1 \ X1) \wedge ( \\ & (v1\_finseq\_1 \ X1) \wedge (m1\_subset\_1 \ X1 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ k5\_numbers \\ & \ X0)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0. (l1\_rltopsp1 \ X0) \Rightarrow ((l1\_rlvect\_1 \ X0) \wedge (l1\_pre\_topc \ X0)) \quad (9)$$

Assume the following.

$$m1\_subset\_1 \ k5\_numbers \ (k1\_zfmisc\_1 \ k1\_numbers) \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v7\_ordinal1 \ X0) \wedge (m1\_finseq\_1 \ X1 \ (u1\_struct\_0 \\ & (k15\_euclid \ X0)))) \Rightarrow (m1\_subset\_1 \ (k3\_topreal1 \ X0 \ X1) \ (k1\_zfmisc\_1 \\ & \ (u1\_struct\_0 \ (k15\_euclid \ X0)))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v1\_matrix\_1 \ X0) \wedge (m1\_finseq\_1 \\ & \ X0 \ (k3\_finseq\_2 \ (u1\_struct\_0 \ (k15\_euclid \ np\_2)))))) \wedge ((v7\_ordinal1 \\ & \ X1) \wedge (v7\_ordinal1 \ X2)) \Rightarrow (m1\_subset\_1 \ (k3\_goboard5 \ X0 \ X1 \ X2) \ (k1\_zfmisc\_1 \\ & \ (u1\_struct\_0 \ (k15\_euclid \ np\_2)))) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0 X0) \wedge (m1\_finseq\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2)))) \Rightarrow ((v1\_matrix\_1 (k2\_goboard2 X0)) \wedge (m2\_finseq\_1 (k2\_goboard2 X0) (k3\_finseq\_2 (u1\_struct\_0 (k15\_euclid np\_2)))))) \quad (13)$$

Assume the following.

$$\forall X0. \forall X1. ((l1\_pre\_topc X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Rightarrow (m1\_subset\_1 (k1\_tops\_1 X0 X1) (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \quad (14)$$

Assume the following.

$$\forall X0. (v7\_ordinal1 X0) \Rightarrow ((v5\_rltopsp1 (k15\_euclid X0)) \wedge (l1\_rltopsp1 (k15\_euclid X0))) \quad (15)$$

Assume the following.

$$\forall X0. \forall X1. (v1\_xboole\_0 X0) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v1\_xboole\_0 X2)) \quad (16)$$

Assume the following.

$$\forall X0. (v1\_xboole\_0 X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (v1\_xboole\_0 X1)) \quad (17)$$

Assume the following.

$$\forall X0. (v6\_membered X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 X0) \Rightarrow (v7\_ordinal1 X1)) \quad (18)$$

**Theorem 1**

$$\forall X0. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v3\_funct\_1 X0) \wedge ((v1\_finseq\_6 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \wedge ((v1\_topreal1 X0) \wedge ((v2\_topreal1 X0) \wedge ((v1\_goboard5 X0) \wedge ((v2\_goboard5 X0) \wedge (m2\_finseq\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2)))))))))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 k5\_numbers) \Rightarrow (\forall X2. (m1\_subset\_1 X2 k5\_numbers) \Rightarrow (((r1\_xxreal\_0 X1 (k3\_finseq\_1 (k2\_goboard2 X0))) \wedge (r1\_xxreal\_0 X2 (k1\_matrix\_1 (k2\_goboard2 X0)))) \Rightarrow (r1\_tarski (k1\_tops\_1 (k15\_euclid np\_2) (k3\_goboard5 (k2\_goboard2 X0) X1 X2)) (k3\_subset\_1 (u1\_struct\_0 (k15\_euclid np\_2)) (k3\_topreal1 np\_2 X0)))))))$$