

t15\_jordan12  
(TMZ9uHiGYPzki1m2xHEjF3EygbYVyHcfkat)

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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  $k3\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_topreal1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $r3\_connsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_goboard9 : \iota \Rightarrow \iota$  be given. Let  $k3\_goboard9 : \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k3\_tarski : \iota \Rightarrow \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k2\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_connsp\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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  $k2\_goboard2 : \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_matrix\_1 : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  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  $r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v6\_membered : \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_goboard5 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k5\_goboard5 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\neg(X0 \in X1) \wedge ((m1\_subset\_1 X1 (k1\_zfmisc\_1 X2)) \wedge (v1\_xboole\_0 X2)) \quad (2)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1\_xboole\_0 X0) \wedge ((\neg v3\_funct\_1 X0) \wedge ((v1\_finseq\_6 \\
& X0 (u1\_struct\_0 (k15\_euclid np\_2))) \wedge ((v1\_topreal1 X0) \wedge ((v2\_topreal1 \\
& X0) \wedge ((v1\_goboard5 X0) \wedge ((v2\_goboard5 X0) \wedge (m2\_finseq\_1 X0 (u1\_struct\_0 \\
& (k15\_euclid np\_2)))))))))) \Rightarrow (k3\_subset\_1 (u1\_struct\_0 (k15\_euclid \\
& np\_2)) (k3\_topreal1 np\_2 X0) = k3\_tarski (ReplSep2 (toset (\lambda X1 : \\
& \iota.m1\_subset\_1 X1 k5\_numbers) (\lambda X1 : \iota.toset (\lambda X2 : \iota. \\
& m1\_subset\_1 X2 k5\_numbers) (\lambda X1 : \iota.\lambda X2 : \iota.(r1\_xxreal\_0 \\
& X1 (k3\_finseq\_1 (k2\_goboard2 X0))) \wedge (r1\_xxreal\_0 X2 (k1\_matrix\_1 \\
& (k2\_goboard2 X0)))) (\lambda X1 : \iota.\lambda X2 : \iota.k2\_pre\_topc (k1\_pre\_topc \\
& (k15\_euclid np\_2) (k3\_subset\_1 (u1\_struct\_0 (k15\_euclid np\_2)) \\
& (k3\_topreal1 np\_2 X0))) (k4\_connsp\_3 (k15\_euclid np\_2) (k1\_tops\_1 \\
& (k15\_euclid np\_2) (k3\_goboard5 (k2\_goboard2 X0) X1 X2)) (k3\_subset\_1 \\
& (u1\_struct\_0 (k15\_euclid np\_2)) (k3\_topreal1 np\_2 X0))))))
\end{aligned} \tag{3}$$

Assume the following.

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

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1\_xboole\_0 X0) \wedge ((\neg v3\_funct\_1 X0) \wedge ((v1\_finseq\_6 \\
& X0 (u1\_struct\_0 (k15\_euclid np\_2))) \wedge ((v1\_topreal1 X0) \wedge ((v2\_topreal1 \\
& X0) \wedge ((v1\_goboard5 X0) \wedge ((v2\_goboard5 X0) \wedge (m2\_finseq\_1 X0 (u1\_struct\_0 \\
& (k15\_euclid np\_2)))))))))) \Rightarrow (k3\_subset\_1 (u1\_struct\_0 (k15\_euclid \\
& np\_2)) (k2\_pre\_topc (k15\_euclid np\_2) (k2\_goboard9 X0)) = k3\_goboard9 \\
& X0)
\end{aligned} \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X0 (k1\_zfmisc\_1 X1)) \Leftrightarrow (r1\_tarski X0 X1) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee (X0 \in X1)) \tag{7}$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid \\ np\_2)))) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge ((\neg v3\_funct\_1 X1) \wedge \\ ((v1\_finseq\_6 X1 (u1\_struct\_0 (k15\_euclid np\_2)))) \wedge ((v1\_topreal1 \\ X1) \wedge ((v2\_topreal1 X1) \wedge ((v1\_goboard5 X1) \wedge ((v2\_goboard5 X1) \wedge \\ (m2\_finseq\_1 X1 (u1\_struct\_0 (k15\_euclid np\_2)))))))))) \Rightarrow (\neg \\ (r3\_connsp\_1 (k15\_euclid np\_2) (k3\_subset\_1 (u1\_struct\_0 (k15\_euclid \\ np\_2)) (k3\_topreal1 np\_2 X1)) X0) \wedge ((X0 \neq k3\_goboard9 X1) \wedge (X0 \neq \\ k2\_goboard9 X1)))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v3\_funct\_1 X0) \wedge ((\neg v1\_xboole\_0 X0) \wedge ((v1\_finseq\_6 \\ X0 (u1\_struct\_0 (k15\_euclid np\_2)))) \wedge ((v1\_topreal1 X0) \wedge ((v2\_topreal1 \\ X0) \wedge ((v1\_goboard5 X0) \wedge ((v2\_goboard5 X0) \wedge (m2\_finseq\_1 X0 (u1\_struct\_0 \\ (k15\_euclid np\_2)))))))))) \Rightarrow (k2\_pre\_topc (k15\_euclid np\_2) \\ (k2\_goboard9 X0) = k4\_subset\_1 (u1\_struct\_0 (k15\_euclid np\_2)) \\ (k2\_goboard9 X0) (k3\_topreal1 np\_2 X0)) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v3\_funct\_1 X0) \wedge ((\neg v1\_xboole\_0 X0) \wedge ((v1\_finseq\_6 \\ X0 (u1\_struct\_0 (k15\_euclid np\_2)))) \wedge ((v1\_topreal1 X0) \wedge ((v2\_topreal1 \\ X0) \wedge ((v1\_goboard5 X0) \wedge ((v2\_goboard5 X0) \wedge (m2\_finseq\_1 X0 (u1\_struct\_0 \\ (k15\_euclid np\_2)))))))))) \Rightarrow (k2\_pre\_topc (k15\_euclid np\_2) \\ (k3\_goboard9 X0) = k4\_subset\_1 (u1\_struct\_0 (k15\_euclid np\_2)) \\ (k3\_goboard9 X0) (k3\_topreal1 np\_2 X0)) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v3\_funct\_1 X0) \wedge ((\neg v1\_xboole\_0 X0) \wedge ((v1\_finseq\_6 \\ X0 (u1\_struct\_0 (k15\_euclid np\_2)))) \wedge ((v1\_topreal1 X0) \wedge ((v2\_topreal1 \\ X0) \wedge ((v1\_goboard5 X0) \wedge ((v2\_goboard5 X0) \wedge (m2\_finseq\_1 X0 (u1\_struct\_0 \\ (k15\_euclid np\_2)))))))))) \Rightarrow (r1\_subset\_1 (k2\_goboard9 X0) ( \\ k3\_goboard9 X0)) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v1\_xboole\_0 X0) \wedge ((\neg v3\_funct\_1 X0) \wedge ((v1\_finseq\_6 \\ X0 (u1\_struct\_0 (k15\_euclid np\_2)))) \wedge ((v1\_topreal1 X0) \wedge ((v2\_topreal1 \\ X0) \wedge ((v1\_goboard5 X0) \wedge ((v2\_goboard5 X0) \wedge (m2\_finseq\_1 X0 (u1\_struct\_0 \\ (k15\_euclid np\_2)))))))))) \Rightarrow (k3\_subset\_1 (u1\_struct\_0 (k15\_euclid \\ np\_2)) (k3\_topreal1 np\_2 X0) = k4\_subset\_1 (u1\_struct\_0 (k15\_euclid \\ np\_2)) (k2\_goboard9 X0) (k3\_goboard9 X0)) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & ((v2\_xreal\_0 \ np\_2) \wedge (m2\_subset\_1 \ np\_2 \ k1\_numbers \ k5\_numbers)) \wedge \\ & ((m1\_subset\_1 \ np\_2 \ k5\_numbers) \wedge (m1\_subset\_1 \ np\_2 \ k1\_numbers)) \end{aligned} \quad (14)$$

Assume the following.

$$\forall X0. \forall X1. r1\_tarski \ X0 \ X0 \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1\_xboole\_0 \ X0) \wedge (\neg v1\_xboole\_0 \ X1)) \Rightarrow \\ & ((r1\_subset\_1 \ X0 \ X1) \Leftrightarrow (r1\_xboole\_0 \ X0 \ X1)) \end{aligned} \quad (16)$$

Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 \ X1 \ X0) \Leftrightarrow (m1\_finseq\_1 \ X1 \ X0) \quad (17)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (18)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((m1\_subset\_1 \ X1 \ (k1\_zfmisc\_1 \\ & X0)) \wedge (m1\_subset\_1 \ X2 \ (k1\_zfmisc\_1 \ X0))) \Rightarrow (k4\_subset\_1 \ X0 \ X1 \ X2 = \\ & k2\_xboole\_0 \ X1 \ X2) \end{aligned} \quad (19)$$

Assume the following.

$$\forall X0. \exists X1. (m1\_subset\_1 \ X1 \ (k1\_zfmisc\_1 \ X0)) \wedge (\neg v1\_subset\_1 \ X1 \ X0) \quad (20)$$

Assume the following.

$$v6\_membered \ k4\_ordinal1 \quad (21)$$

Assume the following.

$$\forall X0. \forall X1. (v1\_xboole\_0 \ X0) \Rightarrow (v1\_xboole\_0 \ (k2\_zfmisc\_1 \ X0 \ X1)) \quad (22)$$

Assume the following.

$$v1\_xboole\_0 \ k1\_xboole\_0 \quad (23)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1\_xboole\_0 \ X0) \wedge ((\neg v3\_funct\_1 \ X0) \wedge ((v1\_finseq\_6 \\ & X0 \ (u1\_struct\_0 \ (k15\_euclid \ np\_2))) \wedge ((v1\_topreal1 \ X0) \wedge ((v2\_topreal1 \\ & X0) \wedge ((v1\_goboard5 \ X0) \wedge ((v2\_goboard5 \ X0) \wedge (m1\_finseq\_1 \ X0 \ (u1\_struct\_0 \\ & (k15\_euclid \ np\_2)))))))))) \Rightarrow (\neg v1\_xboole\_0 \ (k3\_goboard9 \ X0)) \end{aligned} \quad (24)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1\_xboole\_0 X0) \wedge ((\neg v3\_funct\_1 X0) \wedge ((v1\_finseq\_6 \\ & X0 (u1\_struct\_0 (k15\_euclid np\_2))) \wedge ((v1\_topreal1 X0) \wedge ((v2\_topreal1 \\ & X0) \wedge ((v1\_goboard5 X0) \wedge ((v2\_goboard5 X0) \wedge (m1\_finseq\_1 X0 (u1\_struct\_0 \\ & (k15\_euclid np\_2)))))))))) \Rightarrow (\neg v1\_xboole\_0 (k2\_goboard9 X0)) \end{aligned} \quad (25)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & X0)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 X0))) \Rightarrow (m1\_subset\_1 (k4\_subset\_1 \\ & X0 X1 X2) (k1\_zfmisc\_1 X0)) \end{aligned} \quad (26)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v7\_ordinal1 X0) \wedge (m1\_finseq\_1 X1 (u1\_struct\_0 \\ & (k15\_euclid X0)))) \Rightarrow (m1\_subset\_1 (k3\_topreal1 X0 X1) (k1\_zfmisc\_1 \\ & (u1\_struct\_0 (k15\_euclid X0)))) \end{aligned} \quad (27)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (m1\_subset\_1 \\ & (k3\_subset\_1 X0 X1) (k1\_zfmisc\_1 X0)) \end{aligned} \quad (28)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v3\_funct\_1 X0) \wedge ((v1\_finseq\_6 \\ & X0 (u1\_struct\_0 (k15\_euclid np\_2))) \wedge ((v1\_topreal1 X0) \wedge ((v2\_topreal1 \\ & X0) \wedge ((v1\_goboard5 X0) \wedge ((v2\_goboard5 X0) \wedge (m1\_finseq\_1 X0 (u1\_struct\_0 \\ & (k15\_euclid np\_2)))))))))) \Rightarrow (m1\_subset\_1 (k3\_goboard9 X0) ( \\ & k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))) \end{aligned} \quad (29)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v3\_funct\_1 X0) \wedge ((v1\_finseq\_6 \\ & X0 (u1\_struct\_0 (k15\_euclid np\_2))) \wedge ((v1\_topreal1 X0) \wedge ((v2\_topreal1 \\ & X0) \wedge ((v1\_goboard5 X0) \wedge ((v2\_goboard5 X0) \wedge (m1\_finseq\_1 X0 (u1\_struct\_0 \\ & (k15\_euclid np\_2)))))))))) \Rightarrow (m1\_subset\_1 (k2\_goboard9 X0) ( \\ & k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))) \end{aligned} \quad (30)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (r1\_xboole\_0 X0 X1) \Leftrightarrow (k3\_xboole\_0 X0 X1 = \\ & k1\_xboole\_0) \end{aligned} \quad (31)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (X2 = k4\_xboole\_0 X0 X1) \Leftrightarrow (\forall X3. \\ & (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (\neg X3 \in X1))) \end{aligned} \quad (32)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(X2 = k3\_xboole\_0 X0 X1) \Leftrightarrow (\forall X3. \\ (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (X3 \in X1))) \end{aligned} \quad (33)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (k3\_subset\_1 \\ X0 X1 = k4\_xboole\_0 X0 X1) \end{aligned} \quad (34)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(X2 = k2\_xboole\_0 X0 X1) \Leftrightarrow (\forall X3. \\ (X3 \in X2) \Leftrightarrow ((X3 \in X0) \vee (X3 \in X1))) \end{aligned} \quad (35)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v1\_xboole\_0 X0) \wedge ((\neg v3\_funct\_1 X0) \wedge ((v1\_finseq\_6 \\ X0 (u1\_struct\_0 (k15\_euclid np\_2))) \wedge ((v1\_topreal1 X0) \wedge ((v2\_topreal1 \\ X0) \wedge ((v1\_goboard5 X0) \wedge ((v2\_goboard5 X0) \wedge (m2\_finseq\_1 X0 (u1\_struct\_0 \\ (k15\_euclid np\_2)))))))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ (u1\_struct\_0 (k15\_euclid np\_2)))) \Rightarrow ((X1 = k3\_goboard9 X0) \Leftrightarrow (( \\ r3\_connsp\_1 (k15\_euclid np\_2) (k3\_subset\_1 (u1\_struct\_0 (k15\_euclid \\ np\_2)) (k3\_topreal1 np\_2 X0)) X1) \wedge (r1\_tarski (k1\_tops\_1 (k15\_euclid \\ np\_2) (k4\_goboard5 X0 np\_1)) X1)))) \end{aligned} \quad (36)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v1\_xboole\_0 X0) \wedge ((\neg v3\_funct\_1 X0) \wedge ((v1\_finseq\_6 \\ X0 (u1\_struct\_0 (k15\_euclid np\_2))) \wedge ((v1\_topreal1 X0) \wedge ((v2\_topreal1 \\ X0) \wedge ((v1\_goboard5 X0) \wedge ((v2\_goboard5 X0) \wedge (m2\_finseq\_1 X0 (u1\_struct\_0 \\ (k15\_euclid np\_2)))))))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ (u1\_struct\_0 (k15\_euclid np\_2)))) \Rightarrow ((X1 = k2\_goboard9 X0) \Leftrightarrow (( \\ r3\_connsp\_1 (k15\_euclid np\_2) (k3\_subset\_1 (u1\_struct\_0 (k15\_euclid \\ np\_2)) (k3\_topreal1 np\_2 X0)) X1) \wedge (r1\_tarski (k1\_tops\_1 (k15\_euclid \\ np\_2) (k5\_goboard5 X0 np\_1)) X1)))) \end{aligned} \quad (37)$$

Assume the following.

$$\forall X0.\forall X1.k2\_xboole\_0 X0 X1 = k2\_xboole\_0 X1 X0 \quad (38)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_xboole\_0 X0) \wedge ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0))) \Rightarrow \\ ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v3\_funct\_1 X0))) \end{aligned} \quad (39)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(v1\_xboole\_0 X0) \Rightarrow (\forall X2.(m1\_subset\_1 \\ X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v1\_xboole\_0 X2)) \end{aligned} \quad (40)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (v1\_xboole\_0 X1)) \quad (41)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (v1\_relat\_1 X0) \quad (42)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (v1\_funct\_1 X0) \quad (43)$$

Assume the following.

$$\forall X0.(v6\_membered X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow (v7\_ordinal1 X1)) \quad (44)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X2) \wedge ((\neg v3\_funct\_1 \\ & X2) \wedge ((v1\_finseq\_6 X2 (u1\_struct\_0 (k15\_euclid np\_2))) \wedge ((v1\_topreal1 \\ & X2) \wedge ((v2\_topreal1 X2) \wedge ((v1\_goboard5 X2) \wedge ((v2\_goboard5 X2) \wedge \\ & (m2\_finseq\_1 X2 (u1\_struct\_0 (k15\_euclid np\_2)))))))))) \Rightarrow (( \\ & (X0 \in k3\_subset\_1 (u1\_struct\_0 (k15\_euclid np\_2)) (k3\_topreal1 \\ & np\_2 X2)) \wedge ((X1 \in k3\_subset\_1 (u1\_struct\_0 (k15\_euclid np\_2)) \\ & (k3\_topreal1 np\_2 X2)) \wedge (\forall X3.(m1\_subset\_1 X3 (k1\_zfmisc\_1 \\ & (u1\_struct\_0 (k15\_euclid np\_2)))))) \Rightarrow (\neg(r3\_connsp\_1 (k15\_euclid \\ & np\_2) (k3\_subset\_1 (u1\_struct\_0 (k15\_euclid np\_2)) (k3\_topreal1 \\ & np\_2 X2)) X3) \wedge ((X0 \in X3) \wedge (X1 \in X3)))))) \Leftrightarrow (((X0 \in k2\_goboard9 X2) \wedge \\ & (X1 \in k3\_goboard9 X2)) \vee ((X0 \in k3\_goboard9 X2) \wedge (X1 \in k2\_goboard9 \\ & X2)))) \end{aligned}$$