

# t15\_real\_ns1 (TMGXMcLNJQvzX- yArf8UbgrAGCgxz58CUWpB)

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Let  $v7\_ordinal1 : \iota \Rightarrow o$  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  $k5\_numbers : \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k4\_real\_ns1 : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_real\_ns1 : \iota \Rightarrow \iota$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_bhsp\_1 : \iota \Rightarrow o$  be given. Let  $l1\_bhsp\_1 : \iota \Rightarrow o$  be given. Let  $v1\_normsp\_1 : \iota \Rightarrow o$  be given. Let  $l1\_normsp\_1 : \iota \Rightarrow o$  be given. Let  $k1\_euclid : \iota \Rightarrow \iota$  be given. Let  $k4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k5\_euclid : \iota \Rightarrow \iota$  be given. Let  $r1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_algstr\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_real\_ns1 : \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $u1\_rlvect\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_real\_ns1 : \iota \Rightarrow \iota$  be given. Let  $u1\_bhsp\_1 : \iota \Rightarrow \iota$  be given. Let  $k6\_real\_ns1 : \iota \Rightarrow \iota$  be given. Let  $u1\_normsp\_0 : \iota \Rightarrow \iota$  be given. Let  $k3\_real\_ns1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow ((\neg v2\_struct\_0 (k7\_real\_ns1 X0)) \wedge ((v1\_bhsp\_1 (k7\_real\_ns1 X0)) \wedge (l1\_bhsp\_1 (k7\_real\_ns1 X0)))) \quad (1)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow ((\neg v2\_struct\_0 (k4\_real\_ns1 X0)) \wedge ((v1\_normsp\_1 (k4\_real\_ns1 X0)) \wedge (l1\_normsp\_1 (k4\_real\_ns1 X0)))) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge \\ & ((v1\_bhsp\_1 X1) \wedge (l1\_bhsp\_1 X1))) \Rightarrow ((X1 = k7\_real\_ns1 X0) \Leftrightarrow ((u1\_struct\_0 \\ & X1 = k1\_euclid X0) \wedge ((k4\_struct\_0 X1 = k5\_euclid X0) \wedge ((r1\_funct\_2 \\ & (k2\_zfmisc\_1 (u1\_struct\_0 X1) (u1\_struct\_0 X1)) (u1\_struct\_0 \\ & X1) (k2\_zfmisc\_1 (k1\_euclid X0) (k1\_euclid X0)) (k1\_euclid X0) \\ & (u1\_algstr\_0 X1) (k1\_real\_ns1 X0)) \wedge ((r1\_funct\_2 (k2\_zfmisc\_1 \\ & k1\_numbers (u1\_struct\_0 X1) (u1\_struct\_0 X1) (k2\_zfmisc\_1 k1\_numbers \\ & (k1\_euclid X0)) (k1\_euclid X0) (u1\_rlvect\_1 X1) (k2\_real\_ns1 X0)) \wedge \\ & (r1\_funct\_2 (k2\_zfmisc\_1 (u1\_struct\_0 X1) (u1\_struct\_0 X1)) k1\_numbers \\ & (k2\_zfmisc\_1 (k1\_euclid X0) (k1\_euclid X0)) k1\_numbers (u1\_bhsp\_1 \\ & X1) (k6\_real\_ns1 X0)))))))) \quad (3) \end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge \\
& ((v1\_normsp\_1\ X1) \wedge (l1\_normsp\_1\ X1))) \Rightarrow ((X1 = k4\_real\_ns1\ X0) \Leftrightarrow \\
& ((u1\_struct\_0\ X1 = k1\_euclid\ X0) \wedge ((k4\_struct\_0\ X1 = k5\_euclid\ X0) \wedge \\
& ((r1\_funct\_2\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X1)) \\
& (u1\_struct\_0\ X1)\ (k2\_zfmisc\_1\ (k1\_euclid\ X0)\ (k1\_euclid\ X0))\ ( \\
& k1\_euclid\ X0)\ (u1\_algstr\_0\ X1)\ (k1\_real\_ns1\ X0)) \wedge ((r1\_funct\_2 \\
& (k2\_zfmisc\_1\ k1\_numbers\ (u1\_struct\_0\ X1))\ (u1\_struct\_0\ X1)\ (k2\_zfmisc\_1 \\
& k1\_numbers\ (k1\_euclid\ X0))\ (k1\_euclid\ X0)\ (u1\_rlvect\_1\ X1)\ (k2\_real\_ns1 \\
& X0)) \wedge (r1\_funct\_2\ (u1\_struct\_0\ X1)\ k1\_numbers\ (k1\_euclid\ X0)\ k1\_numbers \\
& (u1\_normsp\_0\ X1)\ (k3\_real\_ns1\ X0))))))
\end{aligned} \tag{4}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.((v1\_funct\_1\ X1) \wedge (( \\
& v1\_funct\_2\ X1\ k5\_numbers\ (u1\_struct\_0\ (k4\_real\_ns1\ X0))) \wedge (m1\_subset\_1 \\
& X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (u1\_struct\_0\ (k4\_real\_ns1 \\
& X0)))))) \Leftrightarrow ((v1\_funct\_1\ X1) \wedge ((v1\_funct\_2\ X1\ k5\_numbers\ (u1\_struct\_0 \\
& (k7\_real\_ns1\ X0))) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1 \\
& k5\_numbers\ (u1\_struct\_0\ (k7\_real\_ns1\ X0))))))
\end{aligned}$$