

# t4\_unialg\_3 (TMd- PvSj69HLCAb5nL6dmarDyG56Dvmj3VvZ)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_unialg\_1 : \iota \Rightarrow o$  be given. Let  $v3\_unialg\_1 : \iota \Rightarrow o$  be given. Let  $v4\_unialg\_1 : \iota \Rightarrow o$  be given. Let  $l1\_unialg\_1 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $m5\_margrel1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_unialg\_2 : \iota \Rightarrow \iota$  be given. Let  $r2\_unialg\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k19\_margrel1 : \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k2\_unialg\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k6\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v2\_margrel1 : \iota \Rightarrow o$  be given. Let  $v3\_margrel1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_finseq\_2 : \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k2\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $l1\_struct\_0 : \iota \Rightarrow o$  be given. Let  $m4\_margrel1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. k4\_finseq\_2\ k6\_numbers\ X0 = k6\_domain\_1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ X0))\ (k6\_finseq\_1\ X0) \quad (1)$$

Assume the following.

$$\forall X0. (v1\_xboole\_0\ X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (2)$$

Assume the following.

$$\forall X0. (v1\_relat\_1\ X0) \Rightarrow (k5\_relat\_1\ X0\ (k9\_xtuple\_0\ X0) = X0) \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1. ((v1\_funct\_1\ X1) \wedge \\ (\neg v1\_xboole\_0\ X1) \wedge ((v2\_margrel1\ X1) \wedge ((v3\_margrel1\ X1\ X0) \wedge (m1\_subset\_1 \\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k3\_finseq\_2\ X0)\ X0)))))) \Rightarrow (k9\_xtuple\_0 \\ X1 = k4\_finseq\_2\ (k19\_margrel1\ X1)\ X0)) \end{aligned} \quad (4)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge(m1\_subset\_1 X1 X0))\Rightarrow (k6\_domain\_1 X0 X1 = k1\_tarski X1) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1\_funct\_1 X2)\wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))\Rightarrow(k2\_partfun1 X0 X1 X2 X3 = k5\_relat\_1 X2 X3) \quad (7)$$

Assume the following.

$$\forall X0.\exists X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))\wedge(v1\_xboole\_0 X1) \quad (8)$$

Assume the following.

$$\forall X0.v1\_xboole\_0 (k6\_finseq\_1 X0) \quad (9)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge(l1\_struct\_0 X0))\Rightarrow(\neg v1\_xboole\_0 (u1\_struct\_0 X0)) \quad (10)$$

Assume the following.

$$\forall X0.\neg v1\_xboole\_0 (k1\_zfmisc\_1 X0) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge(m4\_margrel1 X1 X0))\Rightarrow (\forall X2.(m5\_margrel1 X2 X0 X1)\Rightarrow((v1\_funct\_1 X2)\wedge((\neg v1\_xboole\_0 X2)\wedge((v2\_margrel1 X2)\wedge((v3\_margrel1 X2 X0)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k3\_finseq\_2 X0) X0)))))))) \quad (12)$$

Assume the following.

$$\forall X0.(l1\_unialg\_1 X0)\Rightarrow(l1\_struct\_0 X0) \quad (13)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge((v2\_unialg\_1 X0)\wedge((v3\_unialg\_1 X0)\wedge((v4\_unialg\_1 X0)\wedge(l1\_unialg\_1 X0)))))\Rightarrow(m4\_margrel1 (k1\_unialg\_2 X0) (u1\_struct\_0 X0)) \quad (14)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_unialg\_1 X0) \wedge ((v3\_unialg\_1 \\
& \quad X0) \wedge ((v4\_unialg\_1 X0) \wedge (l1\_unialg\_1 X0)))))) \Rightarrow (\forall X1.((\neg \\
& v1\_xboole\_0 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Rightarrow \\
& \quad (\forall X2.(m5\_margrel1 X2 (u1\_struct\_0 X0) (k1\_unialg\_2 X0)) \Rightarrow \\
& ((r2\_unialg\_2 X0 X1 X2) \Rightarrow (k2\_unialg\_2 X0 X1 X2 = k2\_partfun1 (k3\_finseq\_2 \\
& \quad (u1\_struct\_0 X0) (u1\_struct\_0 X0) X2 (k4\_finseq\_2 (k19\_margrel1 \\
& \quad \quad X2) X1))))))
\end{aligned} \tag{15}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\
& \quad (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v1\_relat\_1 X2)
\end{aligned} \tag{16}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_unialg\_1 X0) \wedge ((v3\_unialg\_1 \\
& \quad X0) \wedge ((v4\_unialg\_1 X0) \wedge (l1\_unialg\_1 X0)))))) \Rightarrow (\forall X1.((\neg \\
& v1\_xboole\_0 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Rightarrow \\
& \quad (\forall X2.(m5\_margrel1 X2 (u1\_struct\_0 X0) (k1\_unialg\_2 X0)) \Rightarrow \\
& (((r2\_unialg\_2 X0 X1 X2) \wedge (k19\_margrel1 X2 = k6\_numbers)) \Rightarrow (k2\_unialg\_2 \\
& \quad X0 X1 X2 = X2))))
\end{aligned}$$