

## t30\_ndiff\_1

(TMR2WXnYTtXWS1wBnW9FKSFxPcUsgRXD8d5)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v7\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v13\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v2\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v3\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v4\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v5\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v6\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v7\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v8\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v3\_normsp\_0 : \iota \Rightarrow o$  be given. Let  $v4\_normsp\_0 : \iota \Rightarrow o$  be given. Let  $v2\_normsp\_1 : \iota \Rightarrow o$  be given. Let  $l1\_normsp\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $r2\_ndiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_ndiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 (k1\_zfmisc\_1 X1)) \Leftrightarrow (r1\_tarski X0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((r1\_tarski X0 X1) \wedge (r1\_tarski X1 X2)) \Rightarrow (r1\_tarski X0 X2) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v4\_relat\_1 X1 X0)) \Rightarrow (m1\_subset\_1 (k1\_relset\_1 X0 X1) (k1\_zfmisc\_1 X0)) \quad (3)$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((\neg v2\_struct\_0 X1)\wedge((\neg v7\_struct\_0 X1)\wedge \\
& ((v13\_algstr\_0 X1)\wedge((v2\_rlvect\_1 X1)\wedge((v3\_rlvect\_1 X1)\wedge((v4\_rlvect\_1 \\
& X1)\wedge((v5\_rlvect\_1 X1)\wedge((v6\_rlvect\_1 X1)\wedge((v7\_rlvect\_1 X1)\wedge \\
& ((v8\_rlvect\_1 X1)\wedge((v3\_normsp\_0 X1)\wedge((v4\_normsp\_0 X1)\wedge((v2\_normsp\_1 \\
& X1)\wedge(l1\_normsp\_1 X1))))))))))\Rightarrow(\forall X2.((\neg v2\_struct\_0 \\
& X2)\wedge((\neg v7\_struct\_0 X2)\wedge((v13\_algstr\_0 X2)\wedge((v2\_rlvect\_1 X2)\wedge \\
& ((v3\_rlvect\_1 X2)\wedge((v4\_rlvect\_1 X2)\wedge((v5\_rlvect\_1 X2)\wedge((v6\_rlvect\_1 \\
& X2)\wedge((v7\_rlvect\_1 X2)\wedge((v8\_rlvect\_1 X2)\wedge((v3\_normsp\_0 X2)\wedge \\
& ((v4\_normsp\_0 X2)\wedge((v2\_normsp\_1 X2)\wedge(l1\_normsp\_1 X2))))))))))\Rightarrow \\
& (\forall X3.((v1\_funct\_1 X3)\wedge(m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& (u1\_struct\_0 X1) (u1\_struct\_0 X2))))\Rightarrow((r2\_ndiff\_1 X0 X1 X2 X3)\Leftrightarrow \\
& ((r1\_tarski X0 (k1\_relset\_1 (u1\_struct\_0 X1) X3))\wedge(\forall X4. \\
& (m1\_subset\_1 X4 (u1\_struct\_0 X1))\Rightarrow((X4 \in X0)\Rightarrow(r1\_ndiff\_1 X1 X2 \\
& (k2\_partfun1 (u1\_struct\_0 X1) (u1\_struct\_0 X2) X3 X0 X4))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow((v4\_relat\_1 X2 X0)\wedge(v5\_relat\_1 X2 X1)) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(v1\_relat\_1 X2) \tag{6}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.\forall X1.((\neg v2\_struct\_0 X1)\wedge((\neg v7\_struct\_0 X1)\wedge \\
& ((v13\_algstr\_0 X1)\wedge((v2\_rlvect\_1 X1)\wedge((v3\_rlvect\_1 X1)\wedge((v4\_rlvect\_1 \\
& X1)\wedge((v5\_rlvect\_1 X1)\wedge((v6\_rlvect\_1 X1)\wedge((v7\_rlvect\_1 X1)\wedge \\
& ((v8\_rlvect\_1 X1)\wedge((v3\_normsp\_0 X1)\wedge((v4\_normsp\_0 X1)\wedge((v2\_normsp\_1 \\
& X1)\wedge(l1\_normsp\_1 X1))))))))))\Rightarrow(\forall X2.((\neg v2\_struct\_0 \\
& X2)\wedge((\neg v7\_struct\_0 X2)\wedge((v13\_algstr\_0 X2)\wedge((v2\_rlvect\_1 X2)\wedge \\
& ((v3\_rlvect\_1 X2)\wedge((v4\_rlvect\_1 X2)\wedge((v5\_rlvect\_1 X2)\wedge((v6\_rlvect\_1 \\
& X2)\wedge((v7\_rlvect\_1 X2)\wedge((v8\_rlvect\_1 X2)\wedge((v3\_normsp\_0 X2)\wedge \\
& ((v4\_normsp\_0 X2)\wedge((v2\_normsp\_1 X2)\wedge(l1\_normsp\_1 X2))))))))))\Rightarrow \\
& (\forall X3.((v1\_funct\_1 X3)\wedge(m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& (u1\_struct\_0 X1) (u1\_struct\_0 X2))))\Rightarrow((r2\_ndiff\_1 X0 X1 X2 X3)\Rightarrow \\
& (m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 X1))))))
\end{aligned}$$