

t30_quofield

(TMULfZHwyReahd6Wfts9S9EzYBdn8khHK9y)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v6_struct_0 : \iota \Rightarrow o$ 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 $v3_group_1 : \iota \Rightarrow o$ be given. Let $v5_group_1 : \iota \Rightarrow o$ be given. Let $v4_vectsp_1 : \iota \Rightarrow o$ be given. Let $v5_vectsp_1 : \iota \Rightarrow o$ be given. Let $v1_vectsp_2 : \iota \Rightarrow o$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k19_quofield : \iota \Rightarrow \iota$ be given. Let $k7_quofield : \iota \Rightarrow \iota$ be given. Let $r1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_algstr_0 : \iota \Rightarrow \iota$ be given. Let $k15_quofield : \iota \Rightarrow \iota$ be given. Let $u2_algstr_0 : \iota \Rightarrow \iota$ be given. Let $k16_quofield : \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k11_quofield : \iota \Rightarrow \iota$ be given. Let $k5_struct_0 : \iota \Rightarrow \iota$ be given. Let $k12_quofield : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ 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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $g6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l5_algstr_0 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l4_algstr_0 : \iota \Rightarrow o$ be given. Let $l4_struct_0 : \iota \Rightarrow o$ be given. Let $l3_struct_0 : \iota \Rightarrow o$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $k1_quofield : \iota \Rightarrow \iota$ be given. Let $v36_algstr_0 : \iota \Rightarrow o$ be given. Let $u3_struct_0 : \iota \Rightarrow \iota$ be given. Let $u2_struct_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\
& ((\neg v1_xboole_0 X1) \wedge (\neg v1_xboole_0 X3) \wedge (((v1_funct_1 X4) \wedge ((v1_funct_2 X4 X0 X1) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \wedge ((v1_funct_1 X5) \wedge ((v1_funct_2 X5 X2 X3) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 X2 X3)))))) \Rightarrow (r1_funct_2 X0 X1 X2 X3 X4 X4)
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(((v1_funct_1 \\
& X1)\wedge((v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\
& (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0))))\wedge(((v1_funct_1 X2)\wedge(\\
& (v1_funct_2 X2 (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 X2 (k1_zfmisc_1 \\
& (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0))))\wedge((m1_subset_1 X3 X0)\wedge \\
& (m1_subset_1 X4 X0))))\Rightarrow(\forall X5.\forall X6.\forall X7.\forall X8. \\
& \forall X9.(g6_algstr_0 X0 X1 X2 X3 X4 = g6_algstr_0 X5 X6 X7 X8 X9)\Rightarrow \\
& ((X0 = X5)\wedge((X1 = X6)\wedge((X2 = X7)\wedge((X3 = X8)\wedge(X4 = X9))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge((\neg v6_struct_0 X0)\wedge(l5_algstr_0 X0)))\Rightarrow(\neg v1_xboole_0 (k7_quofield X0)) \tag{4}$$

Assume the following.

$$\forall X0.(l6_algstr_0 X0)\Rightarrow((l2_algstr_0 X0)\wedge(l5_algstr_0 X0)) \tag{5}$$

Assume the following.

$$\forall X0.(l5_algstr_0 X0)\Rightarrow((l4_algstr_0 X0)\wedge(l4_struct_0 X0)) \tag{6}$$

Assume the following.

$$\forall X0.(l4_algstr_0 X0)\Rightarrow((l3_struct_0 X0)\wedge(l3_algstr_0 X0)) \tag{7}$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0)\Rightarrow((l2_struct_0 X0)\wedge(l1_algstr_0 X0)) \tag{8}$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge((\neg v6_struct_0 X0)\wedge(l5_algstr_0 X0)))\Rightarrow(m1_subset_1 (k7_quofield X0) (k1_zfmisc_1 (k1_zfmisc_1 (k1_quofield X0)))) \tag{9}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0)\wedge((\neg v6_struct_0 X0)\wedge((v13_algstr_0 \\
& X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge \\
& ((v3_group_1 X0)\wedge((v5_group_1 X0)\wedge((v4_vectsp_1 X0)\wedge((v5_vectsp_1 \\
& X0)\wedge((v1_vectsp_2 X0)\wedge(l6_algstr_0 X0))))))))))\Rightarrow((v36_algstr_0 \\
& (k19_quofield X0))\wedge(l6_algstr_0 (k19_quofield X0)))
\end{aligned} \tag{10}$$

Assume the following.

$$\begin{aligned} \forall X0. (& \neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\ & X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\ & ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 \\ & X0) \wedge ((v1_vectsp_2 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow ((v1_funct_1 \\ & (k16_quofield X0)) \wedge ((v1_funct_2 (k16_quofield X0) (k2_zfmisc_1 \\ & (k7_quofield X0) (k7_quofield X0)) (k7_quofield X0)) \wedge (m1_subset_1 \\ & (k16_quofield X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (k7_quofield \\ & X0) (k7_quofield X0)) (k7_quofield X0)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0. (& \neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\ & X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\ & ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 \\ & X0) \wedge ((v1_vectsp_2 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow ((v1_funct_1 \\ & (k15_quofield X0)) \wedge ((v1_funct_2 (k15_quofield X0) (k2_zfmisc_1 \\ & (k7_quofield X0) (k7_quofield X0)) (k7_quofield X0)) \wedge (m1_subset_1 \\ & (k15_quofield X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (k7_quofield \\ & X0) (k7_quofield X0)) (k7_quofield X0)))))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0. (& \neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\ & X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\ & ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 \\ & X0) \wedge ((v1_vectsp_2 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (m2_subset_1 \\ & (k12_quofield X0) (k1_zfmisc_1 (k1_quofield X0)) (k7_quofield \\ & X0)) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0. (& \neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\ & X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\ & ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 \\ & X0) \wedge ((v1_vectsp_2 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (m2_subset_1 \\ & (k11_quofield X0) (k1_zfmisc_1 (k1_quofield X0)) (k7_quofield \\ & X0)) \end{aligned} \quad (14)$$

Assume the following.

$$\forall X0. (l3_struct_0 X0) \Rightarrow (k5_struct_0 X0 = u3_struct_0 X0) \quad (15)$$

Assume the following.

$$\forall X0. (l2_struct_0 X0) \Rightarrow (k4_struct_0 X0 = u2_struct_0 X0) \quad (16)$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\ &X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\ &((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 \\ &X0) \wedge ((v1_vectsp_2 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (k19_quofield \\ &X0 = g6_algstr_0 (k7_quofield X0) (k15_quofield X0) (k16_quofield \\ &X0) (k12_quofield X0) (k11_quofield X0)) \end{aligned} \quad (17)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_xboole_0 X1)) \quad (18)$$

Assume the following.

$$\forall X0. (l6_algstr_0 X0) \Rightarrow ((v36_algstr_0 X0) \Rightarrow (X0 = g6_algstr_0 (u1_struct_0 X0) (u1_algstr_0 X0) (u2_algstr_0 X0) (u3_struct_0 X0) (u2_struct_0 X0))) \quad (19)$$

Theorem 1

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\ &X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\ &((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 \\ &X0) \wedge ((v1_vectsp_2 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow ((u1_struct_0 \\ &(k19_quofield X0) = k7_quofield X0) \wedge ((r1_funct_2 (k2_zfmisc_1 \\ &(u1_struct_0 (k19_quofield X0)) (u1_struct_0 (k19_quofield X0))) \\ &(u1_struct_0 (k19_quofield X0)) (k2_zfmisc_1 (k7_quofield X0) \\ &(k7_quofield X0)) (k7_quofield X0) (u1_algstr_0 (k19_quofield \\ &X0)) (k15_quofield X0)) \wedge ((r1_funct_2 (k2_zfmisc_1 (u1_struct_0 \\ &(k19_quofield X0)) (u1_struct_0 (k19_quofield X0))) (u1_struct_0 \\ &(k19_quofield X0)) (k2_zfmisc_1 (k7_quofield X0) (k7_quofield \\ &X0)) (k7_quofield X0) (u2_algstr_0 (k19_quofield X0)) (k16_quofield \\ &X0)) \wedge ((k4_struct_0 (k19_quofield X0) = k11_quofield X0) \wedge (k5_struct_0 \\ &(k19_quofield X0) = k12_quofield X0)))))) \end{aligned}$$