

l55_quofield

(TML48cLWBovda6JMKQFch3xRhZ2pxK78vth)

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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 $k19_quofield : \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k1_quofield : \iota \Rightarrow \iota$ be given. Let $k7_quofield : \iota \Rightarrow \iota$ be given. Let $k5_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_quofield : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $g6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v36_algstr_0 : \iota \Rightarrow o$ 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 $k15_quofield : \iota \Rightarrow \iota$ be given. Let $k12_quofield : \iota \Rightarrow \iota$ be given. Let $k11_quofield : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u2_algstr_0 : \iota \Rightarrow \iota$ be given. Let $u1_algstr_0 : \iota \Rightarrow \iota$ be given. Let $u3_struct_0 : \iota \Rightarrow \iota$ be given. Let $u2_struct_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\
& ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 \\
& X0) \wedge ((v1_vectsp_2 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& (m2_subset_1 X1 (k1_zfmisc_1 (k1_quofield X0)) (k7_quofield X0)) \Rightarrow \\
& (\forall X2. (m2_subset_1 X2 (k1_zfmisc_1 (k1_quofield X0)) (k7_quofield \\
& X0)) \Rightarrow (k5_binop_1 (k7_quofield X0) (k16_quofield X0) X1 X2 = k5_binop_1 \\
& (k7_quofield X0) (k16_quofield X0) X2 X1)))
\end{aligned} \tag{1}$$

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.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\
& ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 \\
& X0) \wedge ((v1_vectsp_2 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow ((\neg v2_struct_0 \\
& (k19_quofield X0)) \wedge (v36_algstr_0 (k19_quofield X0)))
\end{aligned} \tag{4}$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge (l5_algstr_0 X0))) \Rightarrow (\neg v1_xboole_0 (k7_quofield X0)) \tag{5}$$

Assume the following.

$$\forall X0. (l6_algstr_0 X0) \Rightarrow ((l2_algstr_0 X0) \wedge (l5_algstr_0 X0)) \tag{6}$$

Assume the following.

$$\forall X0. (l5_algstr_0 X0) \Rightarrow ((l4_algstr_0 X0) \wedge (l4_struct_0 X0)) \tag{7}$$

Assume the following.

$$\forall X0. (l4_algstr_0 X0) \Rightarrow ((l3_struct_0 X0) \wedge (l3_algstr_0 X0)) \tag{8}$$

Assume the following.

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

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.

$$\begin{aligned} \forall X0. (l3_algstr_0 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k6_algstr_0 \\ & X0 X1 X2 = k5_binop_1 (u1_struct_0 X0) (u2_algstr_0 X0) X1 X2))) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\ &X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\ &((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 \\ &X0) \wedge ((v1_vectsp_2 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (k19_quofield \\ &X0 = g6_algstr_0 (k7_quofield X0) (k15_quofield X0) (k16_quofield \\ &X0) (k12_quofield X0) (k11_quofield X0)) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} \forall X0. (l3_algstr_0 X0) \Rightarrow ((v5_group_1 X0) \Leftrightarrow (\forall X1. (m1_subset_1 \\ &X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 \\ &X0)) \Rightarrow (k6_algstr_0 X0 X1 X2 = k6_algstr_0 X0 X2 X1)))) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} \forall X0. (v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 \\ &X0)) \Rightarrow (v1_xboole_0 X1)) \end{aligned} \quad (18)$$

Assume the following.

$$\begin{aligned} \forall X0. (l6_algstr_0 X0) \Rightarrow ((v36_algstr_0 X0) \Rightarrow (X0 = g6_algstr_0 \\ &(u1_struct_0 X0) (u1_algstr_0 X0) (u2_algstr_0 X0) (u3_struct_0 \\ &X0) (u2_struct_0 X0))) \end{aligned} \quad (19)$$

Theorem 1

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