

t29_quofield (TML- bGCq3raW712vuPM9VGTJWM1n1F5Lj3HG)

October 27, 2020

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 $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $k11_quofield : \iota \Rightarrow \iota$ be given. Let $k5_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_quofield : \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k18_quofield : \iota \Rightarrow \iota$ be given. Let $k12_quofield : \iota \Rightarrow \iota$ be given. Let $k9_quofield : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k14_quofield : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l5_algstr_0 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ 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 $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\
& ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 \\
& X0) \wedge ((v1_vectsp_2 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& (m2_subset_1 X1 (k1_zfmisc_1 (k1_quofield X0)) (k7_quofield X0)) \Rightarrow \\
& ((X1 \neq k11_quofield X0) \Rightarrow ((k9_quofield X0 X1 (k14_quofield X0 X1) = \\
& k12_quofield X0) \wedge (k9_quofield X0 (k14_quofield X0 X1) X1 = k12_quofield \\
& X0))))
\end{aligned} \tag{1}$$

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.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge (l5_algstr_0 \\
& X0))) \Rightarrow (\neg v1_xboole_0 (k7_quofield X0))
\end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.(l6_algstr_0 X0)\Rightarrow((l2_algstr_0 X0)\wedge(l5_algstr_0 X0)) \quad (4)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge((\neg v6_struct_0 X0)\wedge(l5_algstr_0 X0)))\Rightarrow(m1_subset_1 (k7_quofield X0) (k1_zfmisc_1 (k1_zfmisc_1 (k1_quofield X0)))) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge((\neg v6_struct_0 X0)\wedge((v13_algstr_0 X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge \\ ((v3_group_1 X0)\wedge((v5_group_1 X0)\wedge((v4_vectsp_1 X0)\wedge((v5_vectsp_1 X0)\wedge((v1_vectsp_2 X0)\wedge(l6_algstr_0 X0))))))))))\Rightarrow((v1_funct_1 \\ (k18_quofield X0)\wedge((v1_funct_2 (k18_quofield X0) (k7_quofield X0) (k7_quofield X0))\wedge(m1_subset_1 (k18_quofield X0) (k1_zfmisc_1 \\ (k2_zfmisc_1 (k7_quofield X0) (k7_quofield X0)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge((\neg v6_struct_0 X0)\wedge((v13_algstr_0 X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge \\ ((v3_group_1 X0)\wedge((v5_group_1 X0)\wedge((v4_vectsp_1 X0)\wedge((v5_vectsp_1 X0)\wedge((v1_vectsp_2 X0)\wedge(l6_algstr_0 X0))))))))))\Rightarrow((v1_funct_1 \\ (k16_quofield X0)\wedge((v1_funct_2 (k16_quofield X0) (k2_zfmisc_1 (k7_quofield X0) (k7_quofield X0)) (k7_quofield X0))\wedge(m1_subset_1 \\ (k16_quofield X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (k7_quofield X0) (k7_quofield X0)) (k7_quofield X0)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge((\neg v6_struct_0 X0)\wedge \\ ((v13_algstr_0 X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge((v3_group_1 X0)\wedge((v5_group_1 X0)\wedge((v4_vectsp_1 X0)\wedge((\\ v5_vectsp_1 X0)\wedge((v1_vectsp_2 X0)\wedge(l6_algstr_0 X0))))))))))\wedge \\ (m1_subset_1 X1 (k7_quofield X0)))\Rightarrow(m2_subset_1 (k14_quofield X0 X1) (k1_zfmisc_1 (k1_quofield X0) (k7_quofield X0)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\
& ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 \\
& X0) \wedge ((v1_vectsp_2 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (k7_quofield X0) (k7_quofield \\
& X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k7_quofield \\
& X0) (k7_quofield X0)))))) \Rightarrow ((X1 = k18_quofield X0) \Leftrightarrow (\forall X2. \\
& (m2_subset_1 X2 (k1_zfmisc_1 (k1_quofield X0) (k7_quofield X0)) \Rightarrow \\
& (k3_funct_2 (k7_quofield X0) (k7_quofield X0) X1 X2 = k14_quofield \\
& X0 X2))))))
\end{aligned} \tag{9}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\
& ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 \\
& X0) \wedge ((v1_vectsp_2 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (k2_zfmisc_1 (k7_quofield X0) \\
& (k7_quofield X0) (k7_quofield X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
& (k2_zfmisc_1 (k2_zfmisc_1 (k7_quofield X0) (k7_quofield X0)) \\
& (k7_quofield X0)))))) \Rightarrow ((X1 = k16_quofield X0) \Leftrightarrow (\forall X2. (m2_subset_1 \\
& X2 (k1_zfmisc_1 (k1_quofield X0) (k7_quofield X0)) \Rightarrow (\forall X3. \\
& (m2_subset_1 X3 (k1_zfmisc_1 (k1_quofield X0) (k7_quofield X0)) \Rightarrow \\
& (k5_binop_1 (k7_quofield X0) X1 X2 X3 = k9_quofield X0 X2 X3))))))
\end{aligned} \tag{10}$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 X0) \Rightarrow (v1_xboole_0 X1)) \tag{11}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\
& ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 \\
& X0) \wedge ((v1_vectsp_2 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& (m2_subset_1 X1 (k1_zfmisc_1 (k1_quofield X0) (k7_quofield X0)) \Rightarrow \\
& ((X1 \neq k11_quofield X0) \Rightarrow ((k5_binop_1 (k7_quofield X0) (k16_quofield \\
& X0) X1 (k3_funct_2 (k7_quofield X0) (k7_quofield X0) (k18_quofield \\
& X0) X1) = k12_quofield X0) \wedge (k5_binop_1 (k7_quofield X0) (k16_quofield \\
& X0) (k3_funct_2 (k7_quofield X0) (k7_quofield X0) (k18_quofield \\
& X0) X1) X1 = k12_quofield X0))))))
\end{aligned}$$