

t27_quofield
(TMRF5wsV6ekxwLyysfopqsuzbpzvV8s1fhM)

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 $k5_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_quofield : \iota \Rightarrow \iota$ be given. Let $k15_quofield : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l5_algstr_0 : \iota \Rightarrow o$ 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.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\
& ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 \\
& X0) \wedge ((v1_vectsp_2 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& (m2_subset_1 X1 (k1_zfmisc_1 (k1_quofield X0)) (k7_quofield X0)) \Rightarrow \\
& (\forall X2. (m2_subset_1 X2 (k1_zfmisc_1 (k1_quofield X0)) (k7_quofield \\
& X0)) \Rightarrow (\forall X3. (m2_subset_1 X3 (k1_zfmisc_1 (k1_quofield X0)) \\
& (k7_quofield X0)) \Rightarrow (k5_binop_1 (k7_quofield X0) (k16_quofield \\
& X0) (k5_binop_1 (k7_quofield X0) (k15_quofield X0) X1 X2) X3 = k5_binop_1 \\
& (k7_quofield X0) (k15_quofield X0) (k5_binop_1 (k7_quofield X0) \\
& (k16_quofield X0) X1 X3) (k5_binop_1 (k7_quofield X0) (k16_quofield \\
& X0) X2 X3))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\ & X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\ & ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 \\ & X0) \wedge ((v1_vectsp_2 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\ & (m2_subset_1 X1 (k1_zfmisc_1 (k1_quofield X0)) (k7_quofield X0)) \Rightarrow \\ & (\forall X2.(m2_subset_1 X2 (k1_zfmisc_1 (k1_quofield X0)) (k7_quofield \\ & X0)) \Rightarrow (k5_binop_1 (k7_quofield X0) (k16_quofield X0) X1 X2 = k5_binop_1 \\ & (k7_quofield X0) (k16_quofield X0) X2 X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge (l5_algstr_0 \\ & X0))) \Rightarrow (\neg v1_xboole_0 (k7_quofield X0)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. (l6_algstr_0 X0) \Rightarrow ((l2_algstr_0 X0) \wedge (l5_algstr_0 X0)) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge (l5_algstr_0 \\ & X0))) \Rightarrow (m1_subset_1 (k7_quofield X0) (k1_zfmisc_1 (k1_zfmisc_1 \\ & (k1_quofield X0)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((v1_funct_1 X1) \wedge \\ & ((v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0)))))) \wedge ((m1_subset_1 X2 X0) \wedge \\ & (m1_subset_1 X3 X0))) \Rightarrow (m1_subset_1 (k5_binop_1 X0 X1 X2 X3) X0) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\ & X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\ & ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 \\ & X0) \wedge ((v1_vectsp_2 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow ((v1_funct_1 \\ & (k15_quofield X0)) \wedge ((v1_funct_2 (k15_quofield X0) (k2_zfmisc_1 \\ & (k7_quofield X0) (k7_quofield X0)) (k7_quofield X0)) \wedge (m1_subset_1 \\ & (k15_quofield X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (k7_quofield \\ & X0) (k7_quofield X0)) (k7_quofield X0)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_xboole_0 X1)) \quad (9)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\ & ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge ((v1_vectsp_2 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\ & (m2_subset_1 X1 (k1_zfmisc_1 (k1_quofield X0)) (k7_quofield X0)) \Rightarrow \\ & (\forall X2.(m2_subset_1 X2 (k1_zfmisc_1 (k1_quofield X0)) (k7_quofield X0)) \Rightarrow (\forall X3.(m2_subset_1 X3 (k1_zfmisc_1 (k1_quofield X0)) \\ & (k7_quofield X0)) \Rightarrow (k5_binop_1 (k7_quofield X0) (k16_quofield X0) X1 (k5_binop_1 (k7_quofield X0) (k15_quofield X0) X2 X3) = k5_binop_1 \\ & (k7_quofield X0) (k15_quofield X0) (k5_binop_1 (k7_quofield X0) (k16_quofield X0) X1 X2) (k5_binop_1 (k7_quofield X0) (k16_quofield X0) X1 X3)))))) \end{aligned}$$