

t68_chain_1

(TMY97Adin3qqUxFucBDS5XR5yDFFBfB4P8d)

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Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_chain_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k4_chain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k15_chain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k1_chain_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $k1_euclid : \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v8_algstr_0 : \iota \Rightarrow o$ 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 $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k11_chain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_chain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (1)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (k1_chain_1 X0 X1 = k1_zfmisc_1 X1) \quad (3)$$

Assume the following.

$$\neg v1_finset_1 k4_ordinal1 \quad (4)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v1_xboole_0 X0) \wedge (m1_subset_1 \\ & X0 k5_numbers)) \wedge ((m1_chain_1 X1 X0) \wedge (m1_subset_1 X2 k5_numbers))) \Rightarrow \\ & ((\neg v1_xboole_0 (k4_chain_1 X0 X1 X2)) \wedge ((v1_finset_1 (k4_chain_1 \\ & X0 X1 X2)) \wedge (m1_subset_1 (k4_chain_1 X0 X1 X2) (k1_zfmisc_1 (k1_zfmisc_1 \\ & (k1_euclid X0)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v1_xboole_0 X0) \wedge (m1_subset_1 \\ & X0 k5_numbers)) \wedge ((m1_chain_1 X1 X0) \wedge (m1_subset_1 X2 k5_numbers))) \Rightarrow \\ & ((\neg v2_struct_0 (k15_chain_1 X0 X1 X2)) \wedge ((v8_algstr_0 (k15_chain_1 \\ & X0 X1 X2)) \wedge ((v13_algstr_0 (k15_chain_1 X0 X1 X2)) \wedge ((v2_rlvect_1 \\ & (k15_chain_1 X0 X1 X2)) \wedge ((v3_rlvect_1 (k15_chain_1 X0 X1 X2)) \wedge \\ & ((v4_rlvect_1 (k15_chain_1 X0 X1 X2)) \wedge (l2_algstr_0 (k15_chain_1 \\ & X0 X1 X2))))))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1_xboole_0 X0) \wedge (m2_subset_1 X0 k1_numbers k5_numbers)) \Rightarrow \\ & (\forall X1. (m1_chain_1 X1 X0) \Rightarrow (\forall X2. (m2_subset_1 X2 k1_numbers \\ & k5_numbers) \Rightarrow (\forall X3. ((\neg v2_struct_0 X3) \wedge ((v8_algstr_0 X3) \wedge \\ & ((v13_algstr_0 X3) \wedge ((v2_rlvect_1 X3) \wedge ((v3_rlvect_1 X3) \wedge ((v4_rlvect_1 \\ & X3) \wedge (l2_algstr_0 X3)))))) \Rightarrow ((X3 = k15_chain_1 X0 X1 X2) \Leftrightarrow ((u1_struct_0 \\ & X3 = k1_chain_1 (k1_zfmisc_1 (k1_euclid X0)) (k4_chain_1 X0 X1 X2)) \wedge \\ & ((k4_struct_0 X3 = k11_chain_1 X0 X1 X2) \wedge (\forall X4. (m1_subset_1 \\ & X4 (u1_struct_0 X3)) \Rightarrow (\forall X5. (m1_subset_1 X5 (u1_struct_0 \\ & X3)) \Rightarrow (\forall X6. (m1_subset_1 X6 (k1_zfmisc_1 (k4_chain_1 X0 \\ & X1 X2)) \Rightarrow (\forall X7. (m1_subset_1 X7 (k1_zfmisc_1 (k4_chain_1 \\ & X0 X1 X2)) \Rightarrow (((X4 = X6) \wedge (X5 = X7)) \Rightarrow (k3_rlvect_1 X3 X4 X5 = k7_chain_1 \\ & X0 X1 X2 X6 X7))))))))))))) \end{aligned} \quad (8)$$

Assume the following.

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

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (v1_finset_1 X0) \quad (10)$$

Theorem 1

$$\begin{aligned} & \forall X0. (m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\ & ((\neg v1_xboole_0 X1) \wedge (m2_subset_1 X1 k1_numbers k5_numbers)) \Rightarrow \\ & (\forall X2. (m1_chain_1 X2 X1) \Rightarrow (\forall X3. (m1_subset_1 X3 (k1_zfmisc_1 \\ & (k4_chain_1 X1 X2 X0))) \Leftrightarrow (m1_subset_1 X3 (u1_struct_0 (k15_chain_1 \\ & X1 X2 X0)))))) \end{aligned}$$