

t5_group_1 (TM- cDP69hkTQU5TyCcmt99VQwGg12dxhYm1S)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_group_1 : \iota \Rightarrow o$ be given. Let $v3_group_1 : \iota \Rightarrow o$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k6_group_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_group_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $r1_nat_d : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_group_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_group_1 : \iota \Rightarrow \iota$ be given. Let $r1_int_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. \neg (X0 \in X1) \wedge ((m1_subset_1 X1 (k1_zfmisc_1 X2)) \wedge (v1_xboole_0 X2)) \quad (1)$$

Assume the following.

$$\forall X0. (v7_ordinal1 X0) \Rightarrow (\forall X1. (v7_ordinal1 X1) \Rightarrow ((r1_nat_d X0 X1) \wedge (r1_nat_d X1 X0)) \Rightarrow (X0 = X1)) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\ & X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2. (v7_ordinal1 X2) \Rightarrow ((k5_group_1 X0 X2 (k2_group_1 \\ & X0 X1) = k1_group_1 X0) \Rightarrow (k5_group_1 X0 X2 X1 = k1_group_1 X0)))) \quad (3) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0. (v7_ordinal1 X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge \\ & ((v2_group_1 X1) \wedge ((v3_group_1 X1) \wedge (l3_algstr_0 X1)))) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow ((k5_group_1 X1 X0 X2 = k1_group_1 \\ & X1) \Rightarrow (r1_int_1 (k6_group_1 X1 X2) X0)))) \quad (4) \end{aligned}$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\ X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ X0)) \Rightarrow (k5_group_1 X0 (k6_group_1 X0 X1) X1 = k1_group_1 X0)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\ X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ X0)) \Rightarrow (\forall X2.(v7_ordinal1 X2) \Rightarrow ((k5_group_1 X0 X2 X1 = k1_group_1 \\ X0) \Rightarrow (k5_group_1 X0 X2 (k2_group_1 X0 X1) = k1_group_1 X0)))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (7)$$

Assume the following.

$$m1_subset_1 k1_xboole_0 k4_ordinal1 \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 X0) \wedge (v7_ordinal1 X1)) \Rightarrow (r1_nat_d X0 X1) \Leftrightarrow (r1_int_1 X0 X1) \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\ X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (10)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (11)$$

Assume the following.

$$\neg v1_finset_1 k4_ordinal1 \quad (12)$$

Assume the following.

$$v6_membered k4_ordinal1 \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge \\ ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \wedge (m1_subset_1 X1 (u1_struct_0 \\ X0))) \Rightarrow (m2_subset_1 (k6_group_1 X0 X1) k1_numbers k5_numbers) \end{aligned} \quad (14)$$

Assume the following.

$$m1_subset_1 \ k5_numbers \ (k1_zfmisc_1 \ k1_numbers) \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 \ X0) \wedge ((v2_group_1 \ X0) \wedge \\ & ((v3_group_1 \ X0) \wedge (l3_algstr_0 \ X0)))) \wedge (m1_subset_1 \ X1 \ (u1_struct_0 \\ & X0))) \Rightarrow (m1_subset_1 \ (k2_group_1 \ X0 \ X1) \ (u1_struct_0 \ X0)) \end{aligned} \quad (16)$$

Assume the following.

$$\forall X0. (v1_xboole_0 \ X0) \Rightarrow (v1_finset_1 \ X0) \quad (17)$$

Assume the following.

$$\forall X0. (v6_membered \ X0) \Rightarrow (\forall X1. (m1_subset_1 \ X1 \ X0) \Rightarrow (v7_ordinal1 \ X1)) \quad (18)$$

Theorem 1

$$\begin{aligned} & \forall X0. (((\neg v2_struct_0 \ X0) \wedge ((v2_group_1 \ X0) \wedge ((v3_group_1 \\ & X0) \wedge (l3_algstr_0 \ X0)))) \Rightarrow (\forall X1. (m1_subset_1 \ X1 \ (u1_struct_0 \\ & X0)) \Rightarrow (k6_group_1 \ X0 \ (k2_group_1 \ X0 \ X1) = k6_group_1 \ X0 \ X1)) \end{aligned}$$