

t17_ideal_1 (TMZQUdZA- JgSkN8pXBZYfgJKDDUvfQsuZ4Qb)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v7_algstr_0 : \iota \Rightarrow o$ be given. Let $v3_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_rlvect_1 : \iota \Rightarrow o$ be given. Let $v5_vectsp_1 : \iota \Rightarrow o$ be given. Let $v1_algstr_1 : \iota \Rightarrow o$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_ideal_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_ideal_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $k5_binom : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v6_algstr_0 : \iota \Rightarrow o$ be given. Let $v1_vectsp_1 : \iota \Rightarrow o$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k6_binom : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $l5_algstr_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $v1_zfmisc_1 : \iota \Rightarrow o$ be given. Let $v5_algstr_0 : \iota \Rightarrow o$ be given. Let $v2_vectsp_1 : \iota \Rightarrow o$ be given. Assume the following.

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

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (2)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((v6_algstr_0 X0) \wedge ((v1_vectsp_1 X0) \wedge ((v1_algstr_1 X0) \wedge (l6_algstr_0 X0)))))) \Rightarrow (\forall X1. ((\neg v1_xboole_0 X1) \wedge ((v3_ideal_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))))) \Rightarrow (k4_struct_0 X0 \in X1)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_algstr_1 X0) \wedge ((v3_rlvect_1 \\ X0) \wedge (l2_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 k5_numbers) \Rightarrow (\forall X3.(m1_subset_1 \\ X3 k5_numbers) \Rightarrow (k5_binom X0 X1 (k2_nat_1 X2 X3) = k1_algstr_0 X0 \\ (k5_binom X0 X1 X2) (k5_binom X0 X1 X3)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v4_rlvect_1 X0) \wedge (l2_algstr_0 \\ X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k5_binom \\ X0 X1 np_1 = X1)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l2_algstr_0 X0)) \Rightarrow (\forall X1. \\ (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow ((k5_binom X0 X1 k6_numbers = \\ k4_struct_0 X0) \wedge (k6_binom X0 X1 k6_numbers = k4_struct_0 X0))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} ((v2_xreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge \\ ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0 : \iota \Rightarrow o.((X0 k6_numbers) \wedge (\forall X1.(m2_subset_1 \\ X1 k1_numbers k5_numbers) \Rightarrow ((X0 X1) \Rightarrow (X0 (k2_nat_1 X1 np_1)))))) \Rightarrow \\ (\forall X1.(m2_subset_1 X1 k1_numbers k5_numbers) \Rightarrow (X0 X1)) \end{aligned} \quad (9)$$

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.

$$\begin{aligned} \forall X0. \forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\ X2 X0 X1) \Rightarrow (m1_subset_1 X2 X0)) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.(l6_algstr_0 X0) \Rightarrow ((l2_algstr_0 X0) \wedge (l5_algstr_0 X0)) \quad (14)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0) \Rightarrow ((l2_struct_0 X0) \wedge (l1_algstr_0 X0)) \quad (15)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (16)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l2_algstr_0 X0)) \Rightarrow (\forall X1. \\ (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((v1_ideal_1 \\ X1 X0) \Leftrightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\ (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (((X2 \in X1) \wedge (X3 \in X1)) \Rightarrow (k1_algstr_0 \\ X0 X2 X3 \in X1)))))) \end{aligned} \quad (17)$$

Assume the following.

$$\forall X0.(v1_zfmisc_1 X0) \Rightarrow (v1_finset_1 X0) \quad (18)$$

Assume the following.

$$\forall X0.(l1_algstr_0 X0) \Rightarrow ((v7_algstr_0 X0) \Rightarrow ((v5_algstr_0 \\ X0) \wedge (v6_algstr_0 X0))) \quad (19)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (v1_zfmisc_1 X0) \quad (20)$$

Assume the following.

$$\forall X0.(l6_algstr_0 X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge (v5_vectsp_1 \\ X0)) \Rightarrow ((\neg v2_struct_0 X0) \wedge ((v1_vectsp_1 X0) \wedge (v2_vectsp_1 X0)))) \quad (21)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ X0)) \Rightarrow (v1_xboole_0 X1)) \quad (22)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v7_algstr_0 X0) \wedge ((v3_rlvect_1 \\ X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_vectsp_1 X0) \wedge ((v1_algstr_1 X0) \wedge \\ (l6_algstr_0 X0)))))) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge ((v1_ideal_1 \\ X1 X0) \wedge ((v3_ideal_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ X0)))))) \Rightarrow (\forall X2.(m2_subset_1 X2 (u1_struct_0 X0) X1) \Rightarrow (\forall X3. \\ (m1_subset_1 X3 k5_numbers) \Rightarrow (k5_binom X0 X2 X3 \in X1)))) \end{aligned}$$