

t43_toprns_1
(TMGHNZS69FTsZWuZ7q5xkcW3tCHwW7AsXfr)

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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 $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k15_euclid : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_toprns_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_toprns_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_toprns_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_toprns_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k3_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_toprns_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\ & ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers (u1_struct_0 (k15_euclid \\ & X0))) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (\\ & u1_struct_0 (k15_euclid X0)))))) \Rightarrow ((v3_toprns_1 X1 X0) \Rightarrow (k6_toprns_1 \\ & X0 (k3_toprns_1 X0 X1) = k4_algstr_0 (k15_euclid X0) (k6_toprns_1 \\ & X0 X1)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & (k15_euclid X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 (\\ & k15_euclid X0))) \Rightarrow (k5_algstr_0 (k15_euclid X0) X1 X2 = k3_rlvect_1 \\ & (k15_euclid X0) X1 (k4_algstr_0 (k15_euclid X0) X2)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\ & ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers (u1_struct_0 (k15_euclid \\ & X0))) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (\\ & u1_struct_0 (k15_euclid X0)))))) \Rightarrow ((v3_toprns_1 X1 X0) \Rightarrow (v3_toprns_1 \\ & (k3_toprns_1 X0 X1) X0))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\ & ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers (u1_struct_0 (k15_euclid \\ & X0))) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (\\ & u1_struct_0 (k15_euclid X0)))))) \Rightarrow (\forall X2. ((v1_funct_1 \\ & X2) \wedge ((v1_funct_2 X2 k5_numbers (u1_struct_0 (k15_euclid X0))) \wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\ & (k15_euclid X0)))))) \Rightarrow (((v3_toprns_1 X1 X0) \wedge (v3_toprns_1 X2 \\ & X0)) \Rightarrow (k6_toprns_1 X0 (k1_toprns_1 X0 X1 X2) = k3_rlvect_1 (k15_euclid \\ & X0) (k6_toprns_1 X0 X1) (k6_toprns_1 X0 X2)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (5)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (6)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \quad (7)$$

Assume the following.

$$v6_membered k4_ordinal1 \quad (8)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((m1_subset_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ & X1) \wedge ((v1_funct_2 X1 k5_numbers (u1_struct_0 (k15_euclid X0))) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\ & (k15_euclid X0)))))) \Rightarrow (m1_subset_1 (k6_toprns_1 X0 X1) (u1_struct_0 \\ & (k15_euclid X0)))) \end{aligned} \quad (10)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v7_ordinal1 X0) \wedge ((v1_funct_1 X1) \wedge ((\\ & v1_funct_2 X1 k5_numbers (u1_struct_0 (k15_euclid X0))) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 (k15_euclid \\ & X0)))))) \Rightarrow ((v1_funct_1 (k3_toprns_1 X0 X1)) \wedge ((v1_funct_2 (\\ & k3_toprns_1 X0 X1) k5_numbers (u1_struct_0 (k15_euclid X0))) \wedge \\ & (m1_subset_1 (k3_toprns_1 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers \\ & (u1_struct_0 (k15_euclid X0))))))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v7_ordinal1 X0) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge ((\\ & v1_funct_2 X1 k5_numbers (u1_struct_0 (k15_euclid X0))) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 (k15_euclid \\ & X0)))))) \Rightarrow (\forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 k5_numbers \\ & (u1_struct_0 (k15_euclid X0))) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 k5_numbers (u1_struct_0 (k15_euclid X0)))))) \Rightarrow \\ & (k4_toprns_1 X0 X1 X2 = k1_toprns_1 X0 X1 (k3_toprns_1 X0 X2)))) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0. (v6_membered X0) \Rightarrow (\forall X1. (m1_subset_1 X1 X0) \Rightarrow (v7_ordinal1 X1)) \quad (14)$$

Theorem 1

$$\begin{aligned} & \forall X0. (m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\ & ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers (u1_struct_0 (k15_euclid \\ & X0))) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (\\ & u1_struct_0 (k15_euclid X0)))))) \Rightarrow (\forall X2. ((v1_funct_1 \\ & X2) \wedge ((v1_funct_2 X2 k5_numbers (u1_struct_0 (k15_euclid X0))) \wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\ & (k15_euclid X0)))))) \Rightarrow (((v3_toprns_1 X1 X0) \wedge (v3_toprns_1 X2 \\ & X0)) \Rightarrow (k6_toprns_1 X0 (k4_toprns_1 X0 X1 X2) = k5_algstr_0 (k15_euclid \\ & X0) (k6_toprns_1 X0 X1) (k6_toprns_1 X0 X2)))))) \end{aligned}$$