

t2_lopban_4

(TMTDwpxgVeETixPVjmtA9jSdfwv29Hy692v)

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Let $v2_struct_0 : \iota \Rightarrow o$ 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 $v5_rlvect_1 : \iota \Rightarrow o$ be given. Let $v6_rlvect_1 : \iota \Rightarrow o$ be given. Let $v7_rlvect_1 : \iota \Rightarrow o$ be given. Let $v8_rlvect_1 : \iota \Rightarrow o$ be given. Let $v3_normsp_0 : \iota \Rightarrow o$ be given. Let $v4_normsp_0 : \iota \Rightarrow o$ be given. Let $v2_normsp_1 : \iota \Rightarrow o$ be given. Let $v2_funcsdom : \iota \Rightarrow o$ be given. Let $v3_group_1 : \iota \Rightarrow o$ be given. Let $v1_vectsp_1 : \iota \Rightarrow o$ be given. Let $v3_vectsp_1 : \iota \Rightarrow o$ be given. Let $v5_lopban_2 : \iota \Rightarrow o$ be given. Let $l1_lopban_2 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ 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 $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k8_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_normsp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_normsp_1 : \iota \Rightarrow o$ be given. Let $k1_normsp_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $k1_normsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l2_normsp_0 : \iota \Rightarrow o$ be given. Let $l1_normsp_0 : \iota \Rightarrow o$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $l1_funcsdom : \iota \Rightarrow o$ be given. Let $v3_normsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
& ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v3_normsp_0 \\
& X0) \wedge ((v4_normsp_0 X0) \wedge ((v2_normsp_1 X0) \wedge (l1_normsp_1 X0)))))))))) \Rightarrow \\
& (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 \\
& X2 (u1_struct_0 X0)) \Rightarrow ((k1_normsp_0 X0 (k5_algstr_0 X0 X1 X2) = k6_numbers) \Leftrightarrow \\
& (X1 = X2))))
\end{aligned}
\tag{1}$$

Assume the following.

$$\begin{aligned} & ((v2_xreal_0 \ np_1) \wedge (m2_subset_1 \ np_1 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_1 \ k5_numbers) \wedge (m1_subset_1 \ np_1 \ k1_numbers)) \end{aligned} \quad (2)$$

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.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v1_funct_1 \ X1) \wedge ((v1_funct_2 \\ & \ X1 \ k5_numbers \ X0) \wedge (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \\ & \ X0)))))) \wedge (v7_ordinal1 \ X2)) \Rightarrow (k8_nat_1 \ X0 \ X1 \ X2 = k1_funct_1 \ X1 \ X2) \end{aligned} \quad (4)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 \ X0) \wedge (l1_struct_0 \\ & \ X0)) \wedge (((v1_funct_1 \ X1) \wedge ((v1_funct_2 \ X1 \ k5_numbers \ (u1_struct_0 \\ & \ X0)) \wedge (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \ (u1_struct_0 \\ & \ X0)))))) \wedge (m1_subset_1 \ X2 \ k5_numbers))) \Rightarrow (k1_normsp_1 \ X0 \ X1 \ X2 = \\ & \ k1_funct_1 \ X1 \ X2) \end{aligned} \quad (6)$$

Assume the following.

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

Assume the following.

$$\neg v1_xboole_0 \ k1_numbers \quad (8)$$

Assume the following.

$$\forall X0. (l2_struct_0 \ X0) \Rightarrow (l1_struct_0 \ X0) \quad (9)$$

Assume the following.

$$\forall X0. (l2_normsp_0 \ X0) \Rightarrow ((l1_normsp_0 \ X0) \wedge (l2_struct_0 \ X0)) \quad (10)$$

Assume the following.

$$\forall X0. (l1_normsp_1 \ X0) \Rightarrow ((l1_rlvect_1 \ X0) \wedge (l2_normsp_0 \ X0)) \quad (11)$$

Assume the following.

$$\forall X0. (l1_lopban_2 \ X0) \Rightarrow ((l1_funcsdom \ X0) \wedge (l1_normsp_1 \ X0)) \quad (12)$$

Assume the following.

$$m1_subset_1 \ k5_numbers \ (k1_zfmisc_1 \ k1_numbers) \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 \ X0) \wedge ((v13_algstr_0 \ X0) \wedge ((v2_rlvect_1 \\ & \quad X0) \wedge ((v3_rlvect_1 \ X0) \wedge ((v4_rlvect_1 \ X0) \wedge ((v5_rlvect_1 \ X0) \wedge \\ & \quad ((v6_rlvect_1 \ X0) \wedge ((v7_rlvect_1 \ X0) \wedge ((v8_rlvect_1 \ X0) \wedge ((v3_normsp_0 \\ & \quad X0) \wedge ((v4_normsp_0 \ X0) \wedge ((v2_normsp_1 \ X0) \wedge (l1_normsp_1 \ X0)))))))))) \Rightarrow \\ & \quad (\forall X1.((v1_funct_1 \ X1) \wedge ((v1_funct_2 \ X1 \ k5_numbers \ (u1_struct_0 \\ & \quad X0)) \wedge (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \ (u1_struct_0 \\ & \quad X0)))))) \Rightarrow ((v3_normsp_1 \ X1 \ X0) \Rightarrow (\forall X2.(m1_subset_1 \ X2 \ (u1_struct_0 \\ & \quad X0)) \Rightarrow ((X2 = k6_normsp_1 \ X0 \ X1) \Leftrightarrow (\forall X3.(m1_subset_1 \ X3 \ k1_numbers) \Rightarrow \\ & \quad (\neg(\neg r1_xxreal_0 \ X3 \ k6_numbers) \wedge (\forall X4.(m2_subset_1 \ X4 \ k1_numbers \\ & \quad k5_numbers) \Rightarrow (\exists X5.(m2_subset_1 \ X5 \ k1_numbers \ k5_numbers) \wedge \\ & \quad ((r1_xxreal_0 \ X4 \ X5) \wedge (r1_xxreal_0 \ X3 \ (k1_normsp_0 \ X0 \ (k5_algstr_0 \\ & \quad X0 \ (k1_normsp_1 \ X0 \ X1 \ X5) \ X2)))))))))))))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 \ X0) \wedge ((v13_algstr_0 \ X0) \wedge ((v2_rlvect_1 \\ & \quad X0) \wedge ((v3_rlvect_1 \ X0) \wedge ((v4_rlvect_1 \ X0) \wedge ((v5_rlvect_1 \ X0) \wedge \\ & \quad ((v6_rlvect_1 \ X0) \wedge ((v7_rlvect_1 \ X0) \wedge ((v8_rlvect_1 \ X0) \wedge ((v3_normsp_0 \\ & \quad X0) \wedge ((v4_normsp_0 \ X0) \wedge ((v2_normsp_1 \ X0) \wedge (l1_normsp_1 \ X0)))))))))) \Rightarrow \\ & \quad (\forall X1.((v1_funct_1 \ X1) \wedge ((v1_funct_2 \ X1 \ k5_numbers \ (u1_struct_0 \\ & \quad X0)) \wedge (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \ (u1_struct_0 \\ & \quad X0)))))) \Rightarrow ((v3_normsp_1 \ X1 \ X0) \Leftrightarrow (\exists X2.(m1_subset_1 \ X2 \ (u1_struct_0 \\ & \quad X0)) \wedge (\forall X3.(m1_subset_1 \ X3 \ k1_numbers) \Rightarrow (\neg(\neg r1_xxreal_0 \\ & \quad X3 \ k6_numbers) \wedge (\forall X4.(m2_subset_1 \ X4 \ k1_numbers \ k5_numbers) \Rightarrow \\ & \quad (\exists X5.(m2_subset_1 \ X5 \ k1_numbers \ k5_numbers) \wedge ((r1_xxreal_0 \\ & \quad X4 \ X5) \wedge (r1_xxreal_0 \ X3 \ (k1_normsp_0 \ X0 \ (k5_algstr_0 \ X0 \ (k1_normsp_1 \\ & \quad X0 \ X1 \ X5) \ X2)))))))))))))) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0.(m1_subset_1 \ X0 \ k4_ordinal1) \Rightarrow (v7_ordinal1 \ X0) \quad (16)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ & ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v3_normsp_0 \\ & X0) \wedge ((v4_normsp_0 X0) \wedge ((v2_normsp_1 X0) \wedge ((v2_funcsdom X0) \wedge \\ & ((v3_group_1 X0) \wedge ((v1_vectsp_1 X0) \wedge ((v3_vectsp_1 X0) \wedge ((v5_lopban_2 \\ & X0) \wedge (l1_lopban_2 X0)))))))))))))) \Rightarrow (\forall X1.((v1_funct_1 \\ & X1) \wedge ((v1_funct_2 X1 k5_numbers (u1_struct_0 X0)) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 X0)))))) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((\forall X3.(\\ & m2_subset_1 X3 k1_numbers k5_numbers) \Rightarrow (k8_nat_1 (u1_struct_0 \\ & X0) X1 X3 = X2)) \Rightarrow (k6_normsp_1 X0 X1 = X2)))) \end{aligned}$$