

t14_clopban4

(TMcM8gdLjj1o9zbBTAT47K3gTjSKPbz16xX)

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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 $v3_normsp_0 : \iota \Rightarrow o$ be given. Let $v4_normsp_0 : \iota \Rightarrow o$ 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 $v2_clvect_1 : \iota \Rightarrow o$ be given. Let $v3_clvect_1 : \iota \Rightarrow o$ be given. Let $v4_clvect_1 : \iota \Rightarrow o$ be given. Let $v5_clvect_1 : \iota \Rightarrow o$ be given. Let $v8_clvect_1 : \iota \Rightarrow o$ be given. Let $v2_cfunclom : \iota \Rightarrow o$ be given. Let $v5_clopban2 : \iota \Rightarrow o$ be given. Let $l1_clopban2 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k1_normsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_lopban_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_nat_d : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $k8_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ 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 $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Let $v2_valued_0 : \iota \Rightarrow o$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $v4_valued_0 : \iota \Rightarrow o$ be given. Let $v5_valued_0 : \iota \Rightarrow o$ be given. Let $l2_normsp_0 : \iota \Rightarrow o$ be given. Let $l1_normsp_0 : \iota \Rightarrow o$ be given. Let $l2_clvect_1 : \iota \Rightarrow o$ be given. Let $l1_clvect_1 : \iota \Rightarrow o$ be given. Let $l1_cfunclom : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\
& ((\neg v2_struct_0 X1) \wedge (l2_struct_0 X1)) \Rightarrow (\forall X2. ((v1_funct_1 \\
& X2) \wedge ((v1_funct_2 X2 k5_numbers (u1_struct_0 X1)) \wedge (m1_subset_1 \\
& X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 X1)))))) \Rightarrow \\
& ((\neg r1_xxreal_0 X0 k6_numbers) \Rightarrow (k8_nat_1 (u1_struct_0 X1) (k4_lopban_4 \\
& X1 X2) X0 = k8_nat_1 (u1_struct_0 X1) X2 (k7_nat_d X0 np_1))))))
\end{aligned} \tag{1}$$

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.

$$\begin{aligned} & \exists X0. (m1_subset_1 \ X0 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \\ & \ k5_numbers))) \wedge ((\neg v1_xboole_0 \ X0) \wedge ((v1_relat_1 \ X0) \wedge ((v4_relat_1 \\ & \ X0 \ k5_numbers) \wedge ((v5_relat_1 \ X0 \ k5_numbers) \wedge ((v1_funct_1 \ X0) \wedge \\ & \ ((v1_partfun1 \ X0 \ k5_numbers) \wedge ((v1_funct_2 \ X0 \ k5_numbers \ k5_numbers) \wedge \\ & \ ((v1_valued_0 \ X0) \wedge ((v2_valued_0 \ X0) \wedge ((v3_valued_0 \ X0) \wedge ((v4_valued_0 \\ & \ X0) \wedge (v5_valued_0 \ X0)))))))))))))) \end{aligned} \quad (7)$$

Assume the following.

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

Assume the following.

$$\forall X0. (l2_normsp_0 \ X0) \Rightarrow ((l1_normsp_0 \ X0) \wedge (l2_struct_0 \ X0)) \quad (9)$$

Assume the following.

$$\forall X0. (l2_clvect_1 \ X0) \Rightarrow ((l1_clvect_1 \ X0) \wedge (l2_normsp_0 \ X0)) \quad (10)$$

Assume the following.

$$\forall X0.(l1_normsp_0 X0) \Rightarrow (l1_struct_0 X0) \quad (11)$$

Assume the following.

$$\forall X0.(l1_clopban2 X0) \Rightarrow ((l1_cfunccdom X0) \wedge (l2_clvect_1 X0)) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 X0) \wedge (v7_ordinal1 X1)) \Rightarrow (m1_subset_1 (k7_nat_d X0 X1) k5_numbers) \quad (13)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((\neg v2_struct_0 X0) \wedge (l2_struct_0 X0)) \wedge \\ & ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers (u1_struct_0 X0)) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\ & X0)))))) \Rightarrow ((v1_funct_1 (k4_lopban_4 X0 X1)) \wedge ((v1_funct_2 (k4_lopban_4 \\ & X0 X1) k5_numbers (u1_struct_0 X0)) \wedge (m1_subset_1 (k4_lopban_4 \\ & X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 X0)))))) \end{aligned} \quad (15)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.(v1_xboole_0 X0) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 X0))) \Rightarrow (v1_xboole_0 X2)) \quad (17)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v3_normsp_0 X0) \wedge \\ & ((v4_normsp_0 X0) \wedge ((v3_group_1 X0) \wedge ((v1_vectsp_1 X0) \wedge ((v3_vectsp_1 \\ & X0) \wedge ((v2_clvect_1 X0) \wedge ((v3_clvect_1 X0) \wedge ((v4_clvect_1 X0) \wedge \\ & ((v5_clvect_1 X0) \wedge ((v8_clvect_1 X0) \wedge ((v2_cfunccdom X0) \wedge ((v5_clopban2 \\ & X0) \wedge (l1_clopban2 X0)))))))))))))) \Rightarrow (\forall X1.(m2_subset_1 \\ & X1 k1_numbers k5_numbers) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\ & X2 k5_numbers (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 k5_numbers (u1_struct_0 X0)))))) \Rightarrow ((\neg r1_xreal_0 \\ & X1 k6_numbers) \Rightarrow (k1_normsp_1 X0 (k4_lopban_4 X0 X2) X1 = k1_normsp_1 \\ & X0 X2 (k7_nat_d X1 np_1)))))) \end{aligned}$$