

t30_group_1

(TMG1PER9tEFJWQsfL7o3p3gYigmfTPRJmqL)

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Let $v1_int_1 : \iota \Rightarrow o$ be given. 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 $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k5_group_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_group_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_int_2 : \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $v3_xxreal_0 : \iota \Rightarrow o$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $k1_group_1 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $np_0 : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k16_complex1 : \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k4_group_1 : \iota \Rightarrow \iota$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\neg(\neg r1_xxreal_0 X0 X1) \wedge (\neg v3_xxreal_0 X1) \wedge (\neg v2_xxreal_0 X0)))) \quad (1)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (k2_group_1 X0 (k1_group_1 X0) = k1_group_1 X0) \quad (2)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (3)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (((r1_xxreal_0 X0 X1) \wedge (v2_xxreal_0 X0)) \Rightarrow (v2_xxreal_0 X1))) \quad (4)$$

Assume the following.

$$v1_xboole_0 \text{ np_}0 \quad (5)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (6)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (7)$$

Assume the following.

$$\forall X0.(v1_int_1 X0) \Rightarrow (k1_int_2 X0 = k16_complex1 X0) \quad (8)$$

Assume the following.

$$\exists X0.(v1_xboole_0 X0) \wedge ((v1_xcmplx_0 X0) \wedge ((v1_xxreal_0 X0) \wedge (v1_xreal_0 X0))) \quad (9)$$

Assume the following.

$$\forall X0.(v1_int_1 X0) \Rightarrow (k1_int_2 (k1_int_2 X0) = k1_int_2 X0) \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l3_algstr_0 X0)) \Rightarrow ((v1_funct_1 \\ (k4_group_1 X0)) \wedge ((v1_funct_2 (k4_group_1 X0) (k2_zfmisc_1 (\\ u1_struct_0 X0) k5_numbers) (u1_struct_0 X0)) \wedge (m1_subset_1 (\\ k4_group_1 X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 \\ X0) k5_numbers) (u1_struct_0 X0)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.(v1_int_1 X0) \Rightarrow (m1_subset_1 (k1_int_2 X0) k5_numbers) \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\ X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(v1_int_1 X1) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (((r1_xxreal_0 k6_numbers \\ X1) \Rightarrow (k5_group_1 X0 X1 X2 = k2_binop_1 (u1_struct_0 X0) k5_numbers \\ (u1_struct_0 X0) (k4_group_1 X0) X2 (k1_int_2 X1))) \wedge ((\neg r1_xxreal_0 \\ k6_numbers X1) \Rightarrow (k5_group_1 X0 X1 X2 = k2_group_1 X0 (k2_binop_1 \\ (u1_struct_0 X0) k5_numbers (u1_struct_0 X0) (k4_group_1 X0) X2 \\ (k1_int_2 X1)))))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l3_algstr_0 X0)) \Rightarrow (\forall X1. \\
& ((v1_funct_1 X1) \wedge (v1_funct_2 X1 (k2_zfmisc_1 (u1_struct_0 X0) \\
& k5_numbers) (u1_struct_0 X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (\\
& k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) k5_numbers) (u1_struct_0 \\
& X0)))))) \Rightarrow ((X1 = k4_group_1 X0) \Leftrightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\
& X0)) \Rightarrow ((k2_binop_1 (u1_struct_0 X0) k5_numbers (u1_struct_0 \\
& X1 X2 k6_numbers = k1_group_1 X0) \wedge (\forall X3.(m2_subset_1 X3 k1_numbers \\
& k5_numbers) \Rightarrow (k2_binop_1 (u1_struct_0 X0) k5_numbers (u1_struct_0 \\
& X0) X1 X2 (k2_nat_1 X3 np_1) = k6_algstr_0 X0 (k2_binop_1 (u1_struct_0 \\
& X0) k5_numbers (u1_struct_0 X0) X1 X2 X3) X2))))))
\end{aligned} \tag{14}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v1_xreal_0 X0) \Rightarrow (((r1_xxreal_0 k6_numbers X0) \Rightarrow (k16_complex1 \\
& X0 = X0)) \wedge ((\neg r1_xxreal_0 k6_numbers X0) \Rightarrow (k16_complex1 X0 = k4_xcplx_0 \\
& X0)))
\end{aligned} \tag{15}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1_xxreal_0 X0) \wedge ((\neg v2_xxreal_0 X0) \wedge (\neg v3_xxreal_0 \\
& X0))) \Rightarrow ((v1_xboole_0 X0) \wedge (v1_xreal_0 X0))
\end{aligned} \tag{16}$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \tag{17}$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (v1_xxreal_0 X0) \tag{18}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1_xxreal_0 X0) \wedge (v2_xxreal_0 X0)) \Rightarrow ((\neg v1_xboole_0 \\
& X0) \wedge ((v1_xxreal_0 X0) \wedge (\neg v3_xxreal_0 X0)))
\end{aligned} \tag{19}$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow ((v7_ordinal1 X0) \wedge (\neg v3_xxreal_0 X0)) \tag{20}$$

Assume the following.

$$\forall X0.(v1_int_1 X0) \Rightarrow (v1_xreal_0 X0) \tag{21}$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (v1_xreal_0 X0) \tag{22}$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (v1_int_1 X0) \tag{23}$$

Theorem 1

$$\begin{aligned} \forall X0.(v1_int_1 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v2_group_1 \\ X1) \wedge ((v3_group_1 X1) \wedge (l3_algstr_0 X1)))) \Rightarrow (\forall X2.(m1_subset_1 \\ X2 (u1_struct_0 X1)) \Rightarrow ((r1_xxreal_0 X0 k6_numbers) \Rightarrow (k5_group_1 \\ X1 X0 X2 = k2_group_1 X1 (k5_group_1 X1 (k1_int_2 X0) X2)))))) \end{aligned}$$