

t3_group_10

(TMM3aeqoaM6csnyawSAirjHsqEflWoo5RSX)

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Let $v2_struct.0 : \iota \Rightarrow o$ be given. Let $v1_group.1 : \iota \Rightarrow o$ be given. Let $l3_algstr.0 : \iota \Rightarrow o$ be given. Let $v1_xboole.0 : \iota \Rightarrow o$ be given. Let $m1_subset.1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k1_funct.2 : \iota \Rightarrow \iota$ be given. Let $v1_group.10 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc.1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_group.10 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_relat.1 : \iota \Rightarrow \iota$ be given. Let $r2_funct.2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_partfun1 : \iota \Rightarrow \iota$ be given. Let $v1_relat.1 : \iota \Rightarrow o$ be given. Let $v4_relat.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_struct.0 : \iota \Rightarrow o$ be given. Let $k1_group.10 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_group.1 : \iota \Rightarrow \iota$ be given. Let $k6_algstr.0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (m1_subset.1 X0 X1) \Rightarrow ((v1_xboole.0 X1) \vee (X0 \in X1)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (k1_funct.1 (k4_relat.1 X1) X0 = X0) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((v1_funct.1 X2) \wedge \\ & ((v1_funct.2 X2 X0 X1) \wedge (m1_subset.1 X2 (k1_zfmisc.1 (k2_zfmisc.1 \\ & X0 X1)))))) \wedge ((v1_funct.1 X3) \wedge ((v1_funct.2 X3 X0 X1) \wedge (m1_subset.1 \\ & X3 (k1_zfmisc.1 (k2_zfmisc.1 X0 X1)))))) \Rightarrow ((r2_funct.2 X0 X1 X2 \\ & X3) \Leftrightarrow (X2 = X3)) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. k6_partfun1 X0 = k4_relat.1 X0 \quad (4)$$

Assume the following.

$$\forall X0. (v1_relat.1 (k4_relat.1 X0)) \wedge ((v4_relat.1 (k4_relat.1 X0) X0) \wedge ((v1_funct.1 (k4_relat.1 X0)) \wedge (v1_partfun1 (k4_relat.1 X0) X0))) \quad (5)$$

Assume the following.

$$\forall X0.(l3_algstr_0 X0) \Rightarrow (l1_struct_0 X0) \quad (6)$$

Assume the following.

$$\forall X0.(v1_partfun1 (k6_partfun1 X0) X0) \wedge (m1_subset_1 (k6_partfun1 X0) (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((\neg v2_struct_0 \\ & X0) \wedge (l1_struct_0 X0)) \wedge (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (u1_struct_0 \\ & X0) (k1_funct_2 X1 X1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (u1_struct_0 X0) (k1_funct_2 X1 X1)))))) \wedge (m1_subset_1 X3 (u1_struct_0 \\ & X0)))) \Rightarrow ((v1_funct_1 (k1_group_10 X0 X1 X2 X3)) \wedge ((v1_funct_2 (\\ & k1_group_10 X0 X1 X2 X3) X1 X1) \wedge (m1_subset_1 (k1_group_10 X0 X1 X2 \\ & X3) (k1_zfmisc_1 (k2_zfmisc_1 X1 X1)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.(l3_algstr_0 X0) \Rightarrow (m1_subset_1 (k1_group_1 X0) (u1_struct_0 X0)) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_group_1 X0) \wedge (l3_algstr_0 \\ & X0))) \Rightarrow (\forall X1.\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\ & X2 (u1_struct_0 X0) (k1_funct_2 X1 X1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (u1_struct_0 X0) (k1_funct_2 X1 X1)))))) \Rightarrow ((v1_group_10 \\ & X2 X0 X1) \Leftrightarrow ((r2_funct_2 X1 X1 (k1_group_10 X0 X1 X2 (k1_group_1 X0) \\ & (k6_partfun1 X1)) \wedge (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow \\ & (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow (r2_funct_2 X1 \\ & X1 (k1_group_10 X0 X1 X2 (k6_algstr_0 X0 X3 X4)) (k1_partfun1 X1 X1 \\ & X1 X1 (k1_group_10 X0 X1 X2 X4) (k1_group_10 X0 X1 X2 X3)))))))))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_group_1 X0) \wedge (l3_algstr_0 \\ & X0))) \Rightarrow (\forall X1.\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\ & X2 (u1_struct_0 X0) (k1_funct_2 X1 X1)) \wedge ((v1_group_10 X2 X0 X1) \wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (k1_funct_2 \\ & X1 X1)))))) \Rightarrow (\forall X3.(m1_subset_1 X3 X1) \Rightarrow (\forall X4.(m1_subset_1 \\ & X4 X1) \Rightarrow ((r2_group_10 X0 X1 X2 X3 X4) \Leftrightarrow (\exists X5.(m1_subset_1 X5 \\ & (u1_struct_0 X0)) \wedge (X4 = k1_funct_1 (k1_group_10 X0 X1 X2 X5) X3)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow ((v1_partfun1 X2 X0) \Rightarrow (v1_funct_2 X2 X0 X1)) \quad (12)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_group_1 X0) \wedge (l3_algstr_0 \\ & \quad X0))) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow (\forall X2.(m1_subset_1 \\ & \quad X2 X1) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge ((v1_funct_2 X3 (u1_struct_0 \\ & \quad X0) (k1_funct_2 X1 X1)) \wedge ((v1_group_10 X3 X0 X1) \wedge (m1_subset_1 X3 \\ & \quad (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (k1_funct_2 X1 X1)))))) \Rightarrow \\ & \quad (r2_group_10 X0 X1 X3 X2 X2)))))) \end{aligned}$$