

t15_autgroup

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v15_algstr_0 : \iota \Rightarrow o$ 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 $m2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_partfun1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_autgroup : \iota \Rightarrow \iota$ be given. Let $k2_group_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_group_1 : \iota \Rightarrow \iota$ 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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_relat_1 : \iota \Rightarrow \iota$ be given. Let $m1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_group_1 : \iota \Rightarrow o$ be given. Let $k6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_group_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (k2_group_1 X0 (k1_group_1 X0) = k1_group_1 X0) \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow ((X1 = k1_xboole_0) \Rightarrow (X0 = k1_xboole_0)) \Rightarrow (X2 \in k1_funct_2 X0 X1) \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \tag{3}$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (k1_funct_1 (k4_relat_1 X1) X0 = X0) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X1) \wedge (m1_funct_2 X2 X0 X1)) \Rightarrow (\forall X3.(m2_funct_2 X3 X0 X1 X2) \Leftrightarrow (m1_subset_1 X3 X2)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(\neg v1_xboole_0 X1) \Rightarrow (k9_funct_2 X0 X1 = k1_funct_2 X0 X1) \quad (7)$$

Assume the following.

$$\forall X0.k6_partfun1 X0 = k4_relat_1 X0 \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0) \wedge (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \wedge (m1_subset_1 X3 X0))) \Rightarrow (k3_funct_2 X0 X1 X2 X3 = k1_funct_1 X2 X3) \quad (9)$$

Assume the following.

$$\forall X0.(v1_relat_1 (k4_relat_1 X0)) \wedge (v1_funct_1 (k4_relat_1 X0)) \quad (10)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \quad (11)$$

Assume the following.

$$\forall X0.(v1_relat_1 (k4_relat_1 X0)) \wedge ((v4_relat_1 (k4_relat_1 X0) X0) \wedge ((v1_funct_1 (k4_relat_1 X0)) \wedge (v1_partfun1 (k4_relat_1 X0) X0))) \quad (12)$$

Assume the following.

$$\forall X0.(l3_algstr_0 X0) \Rightarrow (l1_struct_0 X0) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.(\neg v1_xboole_0 X1) \Rightarrow (m1_funct_2 (k9_funct_2 X0 X1) X0 X1) \quad (14)$$

Assume the following.

$$\forall X0.(v1_partfun1 (k6_partfun1 X0) X0) \wedge (m1_subset_1 (k6_partfun1 X0) (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))) \quad (15)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v15_algstr_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))))) \Rightarrow (m1_funct_2 (k4_autgroup X0) (u1_struct_0 X0) (u1_struct_0 X0)) \quad (16)$$

Assume the following.

$$\forall X0.(l3_algstr_0 X0) \Rightarrow (m1_subset_1 (k1_group_1 X0) (u1_struct_0 X0)) \quad (17)$$

Assume the following.

$$\forall X0.(l3_algstr_0 X0) \Rightarrow ((v1_group_1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow ((X1 = k1_group_1 X0) \Leftrightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((k6_algstr_0 X0 X2 X1 = X2) \wedge (k6_algstr_0 X0 X1 X2 = X2)))))) \quad (18)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v15_algstr_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))))) \Rightarrow (\forall X1.(m1_funct_2 X1 (u1_struct_0 X0) (u1_struct_0 X0)) \Rightarrow ((X1 = k4_autgroup X0) \Leftrightarrow (\forall X2.(m2_funct_2 X2 (u1_struct_0 X0) (u1_struct_0 X0) (k9_funct_2 (u1_struct_0 X0) (u1_struct_0 X0))) \Rightarrow ((X2 \in X1) \Leftrightarrow (\exists X3.(m1_subset_1 X3 (u1_struct_0 X0)) \wedge (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow (k3_funct_2 (u1_struct_0 X0) (u1_struct_0 X0) X2 X4 = k2_group_3 X0 X4 X3))))))) \quad (19)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k2_group_3 X0 X1 X2 = k6_algstr_0 X0 (k6_algstr_0 X0 (k2_group_1 X0 X2) X1) X2))) \quad (20)$$

Assume the following.

$$\forall X0.(l3_algstr_0 X0) \Rightarrow ((v2_group_1 X0) \Rightarrow (v1_group_1 X0)) \quad (21)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow ((v1_partfun1 X2 X0) \Rightarrow (v1_funct_2 X2 X0 X1)) \quad (22)$$

Theorem 1

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (v15_algstr_0 X0) \wedge (v2_group_1 X0) \wedge (v3_group_1 X0) \wedge (l3_algstr_0 X0))) \Rightarrow (m2_funct_2 (k6_partfun1 (u1_struct_0 X0)) (u1_struct_0 X0) (u1_struct_0 X0) (k4_autgroup X0))$$