

t12_instalg1 (TMbaT- LUMa2qcvQEnUD6UDSZJvFZzLdhAxvC)

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Let $v1_instal1 : \iota \Rightarrow o$ be given. Let $l1_msualg_1 : \iota \Rightarrow o$ be given. Let $m1_instal1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_msualg_1 : \iota \Rightarrow \iota$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k3_finseq_2 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $u2_msualg_1 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k13_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \neg(v1_xboole_0 X0) \wedge ((X0 \neq X1) \wedge (v1_xboole_0 X1)) \quad (1)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (3)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((r1_tarski X0 X1) \Rightarrow (k5_relat_1 X1 (k9_xtuple_0 X0) = X0))) \quad (4)$$

Assume the following.

$$\forall X0. ((v1_instal1 X0) \wedge (l1_msualg_1 X0)) \Rightarrow (\forall X1. (m1_instal1 X1 X0) \Rightarrow ((r1_tarski (u2_msualg_1 X1) (u2_msualg_1 X0)) \wedge (r1_tarski (u1_msualg_1 X1) (u1_msualg_1 X0)))) \quad (5)$$

Assume the following.

$$\forall X0. k3_finseq_2 X0 = k13_finseq_1 X0 \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1_funct_1 X2) \wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \Rightarrow (k2_partfun1 \\ & X0 X1 X2 X3 = k5_relat_1 X2 X3) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (\\ & k1_relset_1 X0 X1 = k9_xtuple_0 X1) \end{aligned} \quad (8)$$

Assume the following.

$$\exists X0. v1_xboole_0 X0 \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \exists X2. (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1))) \wedge ((v1_xboole_0 X2) \wedge ((v1_relat_1 X2) \wedge (\\ & v4_relat_1 X2 X0) \wedge (v5_relat_1 X2 X1)))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \exists X2. (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1))) \wedge ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 X0) \wedge (\\ & v5_relat_1 X2 X1) \wedge ((v1_funct_1 X2) \wedge (v1_funct_2 X2 X0 X1)))) \end{aligned} \quad (11)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (12)$$

Assume the following.

$$\forall X0. \neg v1_xboole_0 (k13_finseq_1 X0) \quad (13)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (v1_xboole_0 (k9_xtuple_0 X0)) \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l1_msualg_1 X0) \Rightarrow ((v1_funct_1 (u2_msualg_1 X0)) \wedge \\ & ((v1_funct_2 (u2_msualg_1 X0) (u4_struct_0 X0) (u1_struct_0 X0)) \wedge \\ & (m1_subset_1 (u2_msualg_1 X0) (k1_zfmisc_1 (k2_zfmisc_1 (u4_struct_0 \\ & X0) (u1_struct_0 X0)))))) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_msualg_1 X0) \Rightarrow & ((v1_funct_1 (u1_msualg_1 X0)) \wedge \\ & ((v1_funct_2 (u1_msualg_1 X0) (u4_struct_0 X0) (k3_finseq_2 (\\ & u1_struct_0 X0))) \wedge (m1_subset_1 (u1_msualg_1 X0) (k1_zfmisc_1 \\ & (k2_zfmisc_1 (u4_struct_0 X0) (k3_finseq_2 (u1_struct_0 X0)))))) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_instalg1 X0) \wedge (l1_msualg_1 X0)) \Rightarrow & (\forall X1. \\ & (m1_instalg1 X1 X0) \Rightarrow (l1_msualg_1 X1)) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_msualg_1 X0) \Rightarrow & ((v1_instalg1 X0) \Leftrightarrow ((u1_struct_0 \\ & X0 = k1_xboole_0) \Rightarrow (u4_struct_0 X0 = k1_xboole_0))) \end{aligned} \quad (18)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1))) \Rightarrow (((X1 \neq k1_xboole_0) \Rightarrow ((v1_funct_2 X2 X0 \\ & X1) \Leftrightarrow (X0 = k1_relset_1 X0 X2))) \wedge ((X1 = k1_xboole_0) \Rightarrow ((v1_funct_2 \\ & X2 X0 X1) \Leftrightarrow (X2 = k1_xboole_0)))) \end{aligned} \quad (19)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xboole_0 X0) \Rightarrow & (\forall X1.((v1_relat_1 X1) \wedge (v4_relat_1 \\ & X1 X0)) \Rightarrow ((v1_xboole_0 X1) \wedge ((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)))) \end{aligned} \quad (20)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_instalg1 X0) \wedge (l1_msualg_1 X0)) \Rightarrow & (\forall X1. \\ & (m1_instalg1 X1 X0) \Rightarrow (v1_instalg1 X1)) \end{aligned} \quad (21)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(\neg v1_xboole_0 X1) \Rightarrow & (\forall X2.(m1_subset_1 \\ & X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow ((v1_funct_2 X2 X0 X1) \Rightarrow (\\ & v1_partfun1 X2 X0))) \end{aligned} \quad (22)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1))) \Rightarrow ((v4_relat_1 X2 X0) \wedge (v5_relat_1 X2 X1)) \end{aligned} \quad (23)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_relat_1 X0) \Rightarrow & (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ & X0)) \Rightarrow (v1_relat_1 X1)) \end{aligned} \quad (24)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \quad (25)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v1_partfun1 X2 X0)\Rightarrow(v1_funct_2 X2 X0 X1)) \quad (26)$$

Theorem 1

$$\forall X0.((v1_instalg1 X0)\wedge(l1_msualg_1 X0))\Rightarrow(\forall X1.(m1_instalg1 X1 X0)\Rightarrow((u1_msualg_1 X1 = k2_partfun1 (u4_struct_0 X0) (k3_finseq_2 (u1_struct_0 X0) (u1_msualg_1 X0) (u4_struct_0 X1))\wedge(u2_msualg_1 X1 = k2_partfun1 (u4_struct_0 X0) (u1_struct_0 X0) (u2_msualg_1 X0) (u4_struct_0 X1))))))$$