

t6_grcat_1

(TMUt1dMKVrA17K4SNvPmGoaewXmmpj5rU2g)

October 27, 2020

Let $r1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k3_algstr_0 : \iota$ be given. Let $np_1 : \iota$ be given. Let $k5_vectsp_1 : \iota \Rightarrow \iota$ be given. Let $k8_funct_5 : \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_funct_5 : \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_funct_5 : \iota$ 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 $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $g2_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v13_struct_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v8_algstr_0 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $u1_algstr_0 : \iota \Rightarrow \iota$ be given. Let $u2_struct_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$np_1 = k1_tarski\ k1_xboole_0 \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1\ X0\ X1) \Rightarrow ((v1_xboole_0\ X1) \vee (X0 \in X1)) \tag{2}$$

Assume the following.

$$\begin{aligned} & (k1_binop_1\ k9_funct_5\ k1_xboole_0\ k1_xboole_0 = k1_xboole_0) \wedge \\ & ((k1_funct_1\ k8_funct_5\ k1_xboole_0 = k1_xboole_0) \wedge (k5_funct_5 = k1_xboole_0)) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v1_funct_1\ X2) \wedge ((v1_funct_2\ X2\ X0\ X1) \wedge (m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))))) \Rightarrow \\ & (\forall X3.((v1_funct_1\ X3) \wedge ((v1_funct_2\ X3\ X0\ X1) \wedge (m1_subset_1\ X3\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))))) \Rightarrow ((\forall X4.(X4 \in X0) \Rightarrow \\ & (k1_funct_1\ X2\ X4 = k1_funct_1\ X3\ X4)) \Rightarrow (r2_relset_1\ X0\ X1\ X2\ X3))) \end{aligned} \tag{4}$$

Assume the following.

$$\neg v1_xboole_0 \ np_1 \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((m1_subset_1 \ X2 \\ & (k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1))) \wedge (m1_subset_1 \ X3 \ (k1_zfmisc_1 \\ & (k2_zfmisc_1 \ X0 \ X1)))) \Rightarrow ((r2_relset_1 \ X0 \ X1 \ X2 \ X3) \Leftrightarrow (X2 = X3)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & ((\neg v1_xboole_0 \ X1) \wedge (\neg v1_xboole_0 \ X3) \wedge ((v1_funct_1 \ X4) \wedge ((\\ & v1_funct_2 \ X4 \ X0 \ X1) \wedge (m1_subset_1 \ X4 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \\ & X0 \ X1)))))) \wedge ((v1_funct_1 \ X5) \wedge ((v1_funct_2 \ X5 \ X2 \ X3) \wedge (m1_subset_1 \\ & X5 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X2 \ X3)))))) \Rightarrow ((r1_funct_2 \ X0 \ X1 \\ & X2 \ X3 \ X4 \ X5) \Leftrightarrow (X4 = X5)) \end{aligned} \quad (7)$$

Assume the following.

$$k5_funct_5 = k1_xboole_0 \quad (8)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((v1_funct_1 \ X1) \wedge ((v1_funct_2 \\ & X1 \ (k2_zfmisc_1 \ X0 \ X0) \ X0) \wedge (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \\ & (k2_zfmisc_1 \ X0 \ X0) \ X0)))))) \wedge (m1_subset_1 \ X2 \ X0)) \Rightarrow (\forall X3. \\ & \forall X4.\forall X5.(g2_algstr_0 \ X0 \ X1 \ X2 = g2_algstr_0 \ X3 \ X4 \ X5) \Rightarrow \\ & ((X0 = X3) \wedge ((X1 = X4) \wedge (X2 = X5)))) \end{aligned} \quad (10)$$

Assume the following.

$$(v13_struct_0 \ k3_algstr_0 \ np_1) \wedge (v8_algstr_0 \ k3_algstr_0) \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 \ X0) \wedge (((v1_funct_1 \\ & X1) \wedge ((v1_funct_2 \ X1 \ (k2_zfmisc_1 \ X0 \ X0) \ X0) \wedge (m1_subset_1 \ X1 \ (k1_zfmisc_1 \\ & (k2_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X0) \ X0)))))) \wedge (m1_subset_1 \ X2 \ X0)) \Rightarrow \\ & ((\neg v2_struct_0 \ (g2_algstr_0 \ X0 \ X1 \ X2)) \wedge (v8_algstr_0 \ (g2_algstr_0 \\ & X0 \ X1 \ X2))) \end{aligned} \quad (12)$$

Assume the following.

$$(v1_funct_1\ k9_funct_5) \wedge ((v1_funct_2\ k9_funct_5\ (k2_zfmisc_1\ np_1\ np_1)\ np_1) \wedge (m1_subset_1\ k9_funct_5\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k2_zfmisc_1\ np_1\ np_1)\ np_1)))) \quad (13)$$

Assume the following.

$$(v1_funct_1\ k8_funct_5) \wedge ((v1_funct_2\ k8_funct_5\ np_1\ np_1) \wedge (m1_subset_1\ k8_funct_5\ (k1_zfmisc_1\ (k2_zfmisc_1\ np_1\ np_1)))) \quad (14)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0\ X0) \wedge (l2_algstr_0\ X0)) \Rightarrow ((v1_funct_1\ (k5_vectsp_1\ X0)) \wedge ((v1_funct_2\ (k5_vectsp_1\ X0)\ (u1_struct_0\ X0)\ (u1_struct_0\ X0)) \wedge (m1_subset_1\ (k5_vectsp_1\ X0)\ (k1_zfmisc_1\ (k2_zfmisc_1\ (u1_struct_0\ X0)\ (u1_struct_0\ X0)))))) \quad (15)$$

Assume the following.

$$m1_subset_1\ k5_funct_5\ np_1 \quad (16)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0\ X0) \wedge (((v1_funct_1\ X2) \wedge ((v1_funct_2\ X2\ X0\ X1) \wedge (m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))))) \wedge (m1_subset_1\ X3\ X0))) \Rightarrow (m1_subset_1\ (k3_funct_2\ X0\ X1\ X2\ X3)\ X1) \quad (17)$$

Assume the following.

$$l2_algstr_0\ k3_algstr_0 \quad (18)$$

Assume the following.

$$k3_algstr_0 = g2_algstr_0\ np_1\ k9_funct_5\ k5_funct_5 \quad (19)$$

Assume the following.

$$\forall X0. \forall X1. (X1 = k1_tarski\ X0) \Leftrightarrow (\forall X2. (X2 \in X1) \Leftrightarrow (X2 = X0)) \quad (20)$$

Assume the following.

$$\forall X0. (l2_algstr_0\ X0) \Rightarrow ((v8_algstr_0\ X0) \Rightarrow (X0 = g2_algstr_0\ (u1_struct_0\ X0)\ (u1_algstr_0\ X0)\ (u2_struct_0\ X0))) \quad (21)$$

Theorem 1

$$r1_funct_2\ (u1_struct_0\ k3_algstr_0)\ (u1_struct_0\ k3_algstr_0)\ np_1\ np_1\ (k5_vectsp_1\ k3_algstr_0)\ k8_funct_5$$