

t26_reaset3

(TMW3wojEUCnxUsiCcdRDkMR87AZQWk3L2u4)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v6_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v33_algstr_0 : \iota \Rightarrow o$ be given. Let $v2_rlvect_1 : \iota \Rightarrow o$ be given. Let $v3_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_rlvect_1 : \iota \Rightarrow o$ be given. Let $v3_group_1 : \iota \Rightarrow o$ be given. Let $v5_group_1 : \iota \Rightarrow o$ be given. Let $v4_vectsp_1 : \iota \Rightarrow o$ be given. Let $v5_vectsp_1 : \iota \Rightarrow o$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k8_struct_0 : \iota \Rightarrow \iota$ be given. Let $k2_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_realset3 : \iota \Rightarrow \iota$ be given. Let $k5_struct_0 : \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_realset2 : \iota \Rightarrow \iota$ be given. Let $v1_realset2 : \iota \Rightarrow o$ be given. Let $k6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_realset2 : \iota \Rightarrow \iota$ 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 $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v7_struct_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $u2_algstr_0 : \iota \Rightarrow \iota$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l5_algstr_0 : \iota \Rightarrow o$ be given. Let $l4_algstr_0 : \iota \Rightarrow o$ be given. Let $l4_struct_0 : \iota \Rightarrow o$ be given. Let $l3_struct_0 : \iota \Rightarrow o$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $k7_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
 & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_vectsp_1 X0) \wedge \\
 & ((v1_realset2 X0) \wedge (l6_algstr_0 X0))))))) \Rightarrow (\forall X1. (m2_subset_1 \\
 & X1 (u1_struct_0 X0) (k8_struct_0 X0)) \Rightarrow ((k6_algstr_0 X0 X1 (k5_struct_0 \\
 & X0) = X1) \wedge (k6_algstr_0 X0 (k5_struct_0 X0) X1 = X1)))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge \\
& ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 \\
& X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& (m2_subset_1 X1 (u1_struct_0 X0) (k8_struct_0 X0)) \Rightarrow (\forall X2. \\
& (m2_subset_1 X2 (u1_struct_0 X0) (k8_struct_0 X0)) \Rightarrow ((m2_subset_1 \\
& (k5_binop_1 (u1_struct_0 X0) (k4_realset2 X0) X1 X2) (u1_struct_0 \\
& X0) (k8_struct_0 X0)) \wedge (m2_subset_1 (k3_funct_2 (k8_struct_0 \\
& X0) (k8_struct_0 X0) (k5_realset2 X0) X1) (u1_struct_0 X0) (k8_struct_0 \\
& X0))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge \\
& ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 \\
& X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& (m2_subset_1 X1 (u1_struct_0 X0) (k8_struct_0 X0)) \Rightarrow (X1 = k3_funct_2 \\
& (k8_struct_0 X0) (k8_struct_0 X0) (k5_realset2 X0) (k3_funct_2 \\
& (k8_struct_0 X0) (k8_struct_0 X0) (k5_realset2 X0) X1)))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. (((v1_funct_1 X1) \wedge \\
& ((v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
& (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0)))) \wedge ((m1_subset_1 X2 X0) \wedge \\
& (m1_subset_1 X3 X0))) \Rightarrow (k5_binop_1 X0 X1 X2 X3 = k1_binop_1 X1 X2 X3)
\end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \tag{5}$$

Assume the following.

$$\forall X0.((\neg v7_struct_0 X0) \wedge (l2_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (k8_struct_0 X0)) \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (l3_algstr_0 X0) \Rightarrow ((v1_funct_1 (u2_algstr_0 X0)) \wedge \\
& ((v1_funct_2 (u2_algstr_0 X0) (k2_zfmisc_1 (u1_struct_0 X0) (\\
& u1_struct_0 X0)) (u1_struct_0 X0)) \wedge (m1_subset_1 (u2_algstr_0 \\
& X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (\\
& u1_struct_0 X0)) (u1_struct_0 X0))))))
\end{aligned} \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 X2 X0 X1)\Rightarrow(m1_subset_1 X2 X0)) \quad (8)$$

Assume the following.

$$\forall X0.(l6_algstr_0 X0)\Rightarrow((l2_algstr_0 X0)\wedge(l5_algstr_0 X0)) \quad (9)$$

Assume the following.

$$\forall X0.(l5_algstr_0 X0)\Rightarrow((l4_algstr_0 X0)\wedge(l4_struct_0 X0)) \quad (10)$$

Assume the following.

$$\forall X0.(l4_struct_0 X0)\Rightarrow((l2_struct_0 X0)\wedge(l3_struct_0 X0)) \quad (11)$$

Assume the following.

$$\forall X0.(l4_algstr_0 X0)\Rightarrow((l3_struct_0 X0)\wedge(l3_algstr_0 X0)) \quad (12)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0)\Rightarrow((l2_struct_0 X0)\wedge(l1_algstr_0 X0)) \quad (13)$$

Assume the following.

$$\forall X0.(l1_algstr_0 X0)\Rightarrow(l1_struct_0 X0) \quad (14)$$

Assume the following.

$$\forall X0.(l2_struct_0 X0)\Rightarrow(m1_subset_1 (k8_struct_0 X0) (k1_zfmisc_1 (u1_struct_0 X0))) \quad (15)$$

Assume the following.

$$\forall X0.(l3_struct_0 X0)\Rightarrow(m1_subset_1 (k5_struct_0 X0) (u1_struct_0 X0)) \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge((\neg v6_struct_0 X0)\wedge((v13_algstr_0 X0)\wedge((v33_algstr_0 X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge((v3_group_1 X0)\wedge((v5_group_1 X0)\wedge((v4_vectsp_1 X0)\wedge((v5_vectsp_1 X0)\wedge(l6_algstr_0 X0))))))))))\Rightarrow((v1_funct_1 (k2_realset3 X0)\wedge((v1_funct_2 (k2_realset3 X0) (k2_zfmisc_1 (u1_struct_0 X0) (k8_struct_0 X0)) (u1_struct_0 X0))\wedge(m1_subset_1 (k2_realset3 X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (k8_struct_0 X0)) (u1_struct_0 X0)))))) \quad (17) \end{aligned}$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_vectsp_1 X0) \wedge \\ ((v1_realset2 X0) \wedge (l6_algstr_0 X0)))))))) \Rightarrow (k4_realset2 X0 = \\ u2_algstr_0 X0) \end{aligned} \quad (18)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\ X0) \wedge ((v33_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge \\ ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 \\ X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\ ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (k2_zfmisc_1 (u1_struct_0 X0) \\ (k8_struct_0 X0)) (u1_struct_0 X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (k8_struct_0 X0)) \\ (u1_struct_0 X0)))))) \Rightarrow ((X1 = k2_realset3 X0) \Leftrightarrow (\forall X2.(m1_subset_1 \\ X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m2_subset_1 X3 (u1_struct_0 \\ X0) (k8_struct_0 X0)) \Rightarrow (k2_binop_1 (u1_struct_0 X0) (k8_struct_0 \\ X0) (u1_struct_0 X0) X1 X2 X3 = k1_binop_1 (k4_realset2 X0) X2 (k3_funct_2 \\ (k8_struct_0 X0) (k8_struct_0 X0) (k5_realset2 X0) X3)))))) \end{aligned} \quad (19)$$

Assume the following.

$$\begin{aligned} \forall X0.(l3_algstr_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k6_algstr_0 \\ X0 X1 X2 = k5_binop_1 (u1_struct_0 X0) (u2_algstr_0 X0) X1 X2))) \end{aligned} \quad (20)$$

Assume the following.

$$\forall X0.(l2_struct_0 X0) \Rightarrow (k8_struct_0 X0 = k7_subset_1 (u1_struct_0 \\ X0) (k2_struct_0 X0) (k1_tarski (k4_struct_0 X0))) \quad (21)$$

Assume the following.

$$\forall X0.(l4_struct_0 X0) \Rightarrow ((\neg v6_struct_0 X0) \Rightarrow (\neg v7_struct_0 X0)) \quad (22)$$

Assume the following.

$$\begin{aligned} \forall X0.(l6_algstr_0 X0) \Rightarrow (((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\ X0) \wedge ((v33_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge \\ ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 \\ X0) \wedge ((v5_vectsp_1 X0)))))))))) \Rightarrow ((\neg v6_struct_0 X0) \wedge (v1_realset2 \\ X0))) \end{aligned} \quad (23)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\ & X0) \wedge ((v33_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge \\ & ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 \\ & X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\ & (m2_subset_1 X1 (u1_struct_0 X0) (k8_struct_0 X0)) \Rightarrow (k2_binop_1 \\ & (u1_struct_0 X0) (k8_struct_0 X0) (u1_struct_0 X0) (k2_realset3 \\ & X0) (k5_struct_0 X0) X1 = k3_funct_2 (k8_struct_0 X0) (k8_struct_0 \\ & X0) (k5_realset2 X0) X1)) \end{aligned}$$