

t30_midsp_2

(TMXyuk8BAcHiaejSPZt7GDEuZytRk1pG9bT)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_midsp_1 : \iota \Rightarrow o$ be given. Let $l1_midsp_1 : \iota \Rightarrow o$ be given. Let $v4_midsp_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_midsp_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k3_midsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_midsp_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_midsp_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ 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 $v2_midsp_2 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ 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 $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r1_midsp_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_midsp_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_midsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $u2_midsp_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v2_midsp_2 X0) \wedge (l2_algstr_0 X0))))))) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge (l1_midsp_1 X1)) \Rightarrow (\forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 X2) (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 X1)) (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 X1)) (u1_struct_0 X0)))))) \Rightarrow (\forall X3. (m1_subset_1 X3 (u1_struct_0 X1)) \Rightarrow (\forall X4. (m1_subset_1 X4 (u1_struct_0 X1)) \Rightarrow (\forall X5. (m1_subset_1 X5 (u1_struct_0 X1)) \Rightarrow (\forall X6. (m1_subset_1 X6 (u1_struct_0 X1)) \Rightarrow (((r1_midsp_2 (u1_struct_0 X1) X0 X2) \wedge (v1_midsp_2 X2 X1 X0)) \Rightarrow ((k1_midsp_1 X1 X3 X4 = k1_midsp_1 X1 X5 X6) \Leftrightarrow (k2_binop_1 (u1_struct_0 X1) (u1_struct_0 X1) (u1_struct_0 X0) X2 X3 X4 = k3_rlvect_1 X0 (k2_binop_1 (u1_struct_0 X1) (u1_struct_0 X1) (u1_struct_0 X0) X2 X3 X5) (k2_binop_1 (u1_struct_0 X1) (u1_struct_0 X1) (u1_struct_0 X0) X2 X3 X6)))))))))))))
 \end{aligned}$$

(1)

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v2_rlvect_1 X0)\wedge(l1_algstr_0 X0))\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 X0))))\Rightarrow(k3_rlvect_1 X0 X1 X2 = k1_algstr_0 X0 X1 X2) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge(v2_midsp_1 X0)\wedge(l1_midsp_1 X0))\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 X0))))\Rightarrow(k3_midsp_1 X0 X1 X2 = k1_midsp_1 X0 X1 X2) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge(l1_midsp_1 X0))\wedge(l1_midsp_2 X1 X0))\Rightarrow((v1_funct_1 (u2_midsp_2 X0 X1))\wedge((v1_funct_2 (u2_midsp_2 X0 X1) (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) (u1_struct_0 (u1_midsp_2 X0 X1)))\wedge(m1_subset_1 (u2_midsp_2 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) (u1_struct_0 (u1_midsp_2 X0 X1))))))) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge(l1_midsp_1 X0))\wedge(l1_midsp_2 X1 X0))\Rightarrow((\neg v2_struct_0 (u1_midsp_2 X0 X1))\wedge(l2_algstr_0 (u1_midsp_2 X0 X1))) \quad (5)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0)\Rightarrow((l2_struct_0 X0)\wedge(l1_algstr_0 X0)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((\neg v2_struct_0 X0)\wedge(v2_midsp_1 X0)\wedge(l1_midsp_1 X0))\wedge((l1_midsp_2 X1 X0)\wedge((m1_subset_1 X2 (u1_struct_0 X0))\wedge(m1_subset_1 X3 (u1_struct_0 X0))))))\Rightarrow(m1_subset_1 (k9_midsp_2 X0 X1 X2 X3) (u1_struct_0 (u1_midsp_2 X0 X1))) \quad (7)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(v2_midsp_1 X0)\wedge(l1_midsp_1 X0))\Rightarrow(\forall X1.(l1_midsp_2 X1 X0)\Rightarrow(\forall X2.(m1_subset_1 X2 (u1_struct_0 X0))\Rightarrow(\forall X3.(m1_subset_1 X3 (u1_struct_0 X0))\Rightarrow(k9_midsp_2 X0 X1 X2 X3 = k2_binop_1 (u1_struct_0 X0) (u1_struct_0 X0) (u1_struct_0 (u1_midsp_2 X0 X1)) (u2_midsp_2 X0 X1) X2 X3)))) \quad (8)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_midsp_1 X0)) \Rightarrow (\forall X1. \\
& (l1_midsp_2 X1 X0) \Rightarrow ((v4_midsp_2 X1 X0) \Leftrightarrow ((v2_midsp_2 (u1_midsp_2 \\
& X0 X1)) \wedge ((v3_rlvect_1 (u1_midsp_2 X0 X1)) \wedge ((v4_rlvect_1 (u1_midsp_2 \\
& X0 X1)) \wedge ((v13_algstr_0 (u1_midsp_2 X0 X1)) \wedge ((v2_rlvect_1 (u1_midsp_2 \\
& X0 X1)) \wedge ((v1_midsp_2 (u2_midsp_2 X0 X1) X0 (u1_midsp_2 X0 X1)) \wedge \\
& (r1_midsp_2 (u1_struct_0 X0) (u1_midsp_2 X0 X1) (u2_midsp_2 X0 \\
& X1))))))))))
\end{aligned} \tag{9}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_midsp_1 X0) \wedge (l1_midsp_1 \\
& X0))) \Rightarrow (\forall X1.((v4_midsp_2 X1 X0) \wedge (l1_midsp_2 X1 X0)) \Rightarrow (\forall X2. \\
& (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\
& (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow ((k3_midsp_1 X0 \\
& X2 X3 = k3_midsp_1 X0 X4 X5) \Leftrightarrow (k9_midsp_2 X0 X1 X2 X3 = k1_algstr_0 (\\
& u1_midsp_2 X0 X1) (k9_midsp_2 X0 X1 X2 X4) (k9_midsp_2 X0 X1 X2 X5))))))))))
\end{aligned}$$