

t40_mod_4 (TM-
cmEwyNj6oPtYpn518hUT41QdzixKoWCv4)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v3_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_rlvect_1 : \iota \Rightarrow o$ 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 $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v13_vectsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_rlvect_1 \\
& \quad X0) \wedge ((v4_rlvect_1 X0) \wedge (l2_algstr_0 X0)))) \Rightarrow (\forall X1. ((\neg \\
& \quad v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 \\
& \quad X1) \wedge (l2_algstr_0 X1)))) \Rightarrow (\forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 \\
& \quad X2 (u1_struct_0 X1) (u1_struct_0 X0)) \wedge ((v13_vectsp_1 X2 X1 X0) \wedge \\
& \quad (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 \\
& \quad X0)))))) \Rightarrow (\forall X3. (m1_subset_1 X3 (u1_struct_0 X1)) \Rightarrow (\forall X4. \\
& \quad (m1_subset_1 X4 (u1_struct_0 X1)) \Rightarrow (k3_funct_2 (u1_struct_0 X1) \\
& \quad (u1_struct_0 X0) X2 (k5_algstr_0 X1 X3 X4) = k5_algstr_0 X0 (k3_funct_2 \\
& \quad (u1_struct_0 X1) (u1_struct_0 X0) X2 X3) (k3_funct_2 (u1_struct_0 \\
& \quad X1) (u1_struct_0 X0) X2 X4))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_rlvect_1 \\
& \quad X0) \wedge ((v4_rlvect_1 X0) \wedge (l2_algstr_0 X0)))) \Rightarrow (\forall X1. ((\neg \\
& \quad v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 \\
& \quad X1) \wedge (l2_algstr_0 X1)))) \Rightarrow (\forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 \\
& \quad X2 (u1_struct_0 X1) (u1_struct_0 X0)) \wedge ((v13_vectsp_1 X2 X1 X0) \wedge \\
& \quad (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 \\
& \quad X0)))))) \Rightarrow (\forall X3. (m1_subset_1 X3 (u1_struct_0 X1)) \Rightarrow (k3_funct_2 \\
& \quad (u1_struct_0 X1) (u1_struct_0 X0) X2 (k4_algstr_0 X1 X3) = k4_algstr_0 \\
& \quad X0 (k3_funct_2 (u1_struct_0 X1) (u1_struct_0 X0) X2 X3))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_rlvect_1 \\
& \quad X0) \wedge ((v4_rlvect_1 X0) \wedge (l2_algstr_0 X0)))))) \Rightarrow (\forall X1.((\neg \\
& v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 \\
& \quad X1) \wedge (l2_algstr_0 X1)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\
& \quad X2 (u1_struct_0 X0) (u1_struct_0 X1)) \wedge ((v13_vectsp_1 X2 X0 X1) \wedge \\
& (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 \\
& X1)))))) \Rightarrow (k3_funct_2 (u1_struct_0 X0) (u1_struct_0 X1) X2 (k4_struct_0 \\
& \quad X0) = k4_struct_0 X1)))
\end{aligned} \tag{3}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_rlvect_1 \\
& \quad X0) \wedge ((v4_rlvect_1 X0) \wedge (l2_algstr_0 X0)))))) \Rightarrow (\forall X1.((\neg \\
& v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 \\
& \quad X1) \wedge (l2_algstr_0 X1)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\
& \quad X2 (u1_struct_0 X0) (u1_struct_0 X1)) \wedge ((v13_vectsp_1 X2 X0 X1) \wedge \\
& (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 \\
& X1)))))) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4. \\
& (m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow ((k3_funct_2 (u1_struct_0 \\
& X0) (u1_struct_0 X1) X2 (k4_struct_0 X0) = k4_struct_0 X1) \wedge ((k3_funct_2 \\
& (u1_struct_0 X0) (u1_struct_0 X1) X2 (k4_algstr_0 X0 X3) = k4_algstr_0 \\
& X1 (k3_funct_2 (u1_struct_0 X0) (u1_struct_0 X1) X2 X3)) \wedge (k3_funct_2 \\
& (u1_struct_0 X0) (u1_struct_0 X1) X2 (k5_algstr_0 X0 X3 X4) = k5_algstr_0 \\
& X1 (k3_funct_2 (u1_struct_0 X0) (u1_struct_0 X1) X2 X3) (k3_funct_2 \\
& (u1_struct_0 X0) (u1_struct_0 X1) X2 X4))))))
\end{aligned}$$