

t28_morph_01

(TMF3J7wosBXFDv2oecK3QXEkwNjUT7HBeqn)

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Let $v2_struct_0 : \iota \Rightarrow o$ 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 $v5_rlvect_1 : \iota \Rightarrow o$ be given. Let $v6_rlvect_1 : \iota \Rightarrow o$ be given. Let $v7_rlvect_1 : \iota \Rightarrow o$ be given. Let $v8_rlvect_1 : \iota \Rightarrow o$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_setfam_1 : \iota \Rightarrow \iota$ be given. Let $k3_morph_01 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_rusub_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_morph_01 : \iota \Rightarrow \iota \Rightarrow \iota$ 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. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ & ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 \\ & X0)))))))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\ & (\forall X2.((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (u1_struct_0 X0)))) \Rightarrow (\forall X3.((\neg v1_xboole_0 X3) \wedge (m1_subset_1 \\ & X3 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow ((k2_morph_01 X0 (k5_rusub_4 \\ & X0 X2 X1) X3 = k2_morph_01 X0 X2 (k5_rusub_4 X0 X3 X1)) \wedge (k2_morph_01 \\ & X0 (k5_rusub_4 X0 X2 X1) X3 = k5_rusub_4 X0 (k2_morph_01 X0 X2 X3) X1)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.(l1_rlvect_1 X0) \Rightarrow (l2_algstr_0 X0) \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge (l2_algstr_0 \\ & X0)) \wedge ((m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \wedge (m1_subset_1 \\ & X2 (u1_struct_0 X0)))) \Rightarrow (m1_subset_1 (k5_rusub_4 X0 X1 X2) (k1_zfmisc_1 \\ & (u1_struct_0 X0))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge \\
& ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 \\
& X0) \wedge ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge \\
& (l1_rlvect_1 X0)))))))))) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\
& X0))) \Rightarrow ((v1_funct_1 (k3_morph_01 X0 X1)) \wedge ((v1_funct_2 (k3_morph_01 \\
& X0 X1) (k9_setfam_1 (u1_struct_0 X0)) (k9_setfam_1 (u1_struct_0 \\
& X0))) \wedge (m1_subset_1 (k3_morph_01 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k9_setfam_1 (u1_struct_0 X0)) (k9_setfam_1 (u1_struct_0 X0)))))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
& ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 \\
& X0)))))))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\
& X0))) \Rightarrow (\forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (k9_setfam_1 \\
& (u1_struct_0 X0)) (k9_setfam_1 (u1_struct_0 X0))) \wedge (m1_subset_1 \\
& X2 (k1_zfmisc_1 (k2_zfmisc_1 (k9_setfam_1 (u1_struct_0 X0)) (\\
& k9_setfam_1 (u1_struct_0 X0)))))) \Rightarrow ((X2 = k3_morph_01 X0 X1) \Leftrightarrow \\
& (\forall X3. (m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow \\
& (k3_funct_2 (k1_zfmisc_1 (u1_struct_0 X0)) (k9_setfam_1 (u1_struct_0 \\
& X0)) X2 X3 = k2_morph_01 X0 X3 X1))))))
\end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
& ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 \\
& X0)))))))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\
& (\forall X2. ((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\
& (u1_struct_0 X0)))) \Rightarrow (\forall X3. ((\neg v1_xboole_0 X3) \wedge (m1_subset_1 \\
& X3 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow (k3_funct_2 (k1_zfmisc_1 \\
& (u1_struct_0 X0)) (k9_setfam_1 (u1_struct_0 X0)) (k3_morph_01 \\
& X0 X2) (k5_rusub_4 X0 X3 X1) = k5_rusub_4 X0 (k3_funct_2 (k1_zfmisc_1 \\
& (u1_struct_0 X0)) (k9_setfam_1 (u1_struct_0 X0)) (k3_morph_01 \\
& X0 X2) X3) X1))))))
\end{aligned}$$