

t20_zmodul01 (TMFFKMVb- npPgcUP1KFD6GtDoRpkwoRrwu4R)

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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 $v2_zmodul01 : \iota \Rightarrow o$ be given. Let $v3_zmodul01 : \iota \Rightarrow o$ be given. Let $v4_zmodul01 : \iota \Rightarrow o$ be given. Let $v5_zmodul01 : \iota \Rightarrow o$ be given. Let $l1_zmodul01 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v7_zmodul01 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $k3_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_int_1 : \iota \Rightarrow o$ be given. Let $k1_zmodul01 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v2_zmodul01 X0) \wedge \\ & ((v3_zmodul01 X0) \wedge ((v4_zmodul01 X0) \wedge ((v5_zmodul01 X0) \wedge (l1_zmodul01 \\ & X0)))))))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ & X0))) \Rightarrow ((v7_zmodul01 X1 X0) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 \\ & X0)) \Rightarrow ((X2 \in X1) \Rightarrow (k4_algstr_0 X0 X2 \in X1)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v2_rlvect_1 X0) \wedge (l1_algstr_0 \\ & X0)) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 \\ & X0)))) \Rightarrow (k3_rlvect_1 X0 X1 X2 = k1_algstr_0 X0 X1 X2) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. (l2_algstr_0 X0) \Rightarrow ((l2_struct_0 X0) \wedge (l1_algstr_0 X0)) \quad (3)$$

Assume the following.

$$\forall X0. (l1_zmodul01 X0) \Rightarrow (l2_algstr_0 X0) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. ((l2_algstr_0 X0) \wedge (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (m1_subset_1 (k4_algstr_0 X0 X1) (u1_struct_0 X0)) \quad (5)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v2_zmodul01 X0) \wedge \\
& ((v3_zmodul01 X0) \wedge ((v4_zmodul01 X0) \wedge ((v5_zmodul01 X0) \wedge (l1_zmodul01 \\
& X0)))))))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\
& X0))) \Rightarrow ((v7_zmodul01 X1 X0) \Leftrightarrow ((\forall X2.(m1_subset_1 X2 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (((X2 \in X1) \wedge \\
& (X3 \in X1)) \Rightarrow (k3_rlvect_1 X0 X2 X3 \in X1)))))) \wedge (\forall X2.(v1_int_1 \\
& X2) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow ((X3 \in X1) \Rightarrow \\
& (k1_zmodul01 X0 X3 X2 \in X1))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l2_algstr_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k5_algstr_0 \\
& X0 X1 X2 = k1_algstr_0 X0 X1 (k4_algstr_0 X0 X2)))
\end{aligned} \tag{7}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v2_zmodul01 X0) \wedge \\
& ((v3_zmodul01 X0) \wedge ((v4_zmodul01 X0) \wedge ((v5_zmodul01 X0) \wedge (l1_zmodul01 \\
& X0)))))))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\
& X0))) \Rightarrow ((v7_zmodul01 X1 X0) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (((X2 \in X1) \wedge \\
& (X3 \in X1)) \Rightarrow (k5_algstr_0 X0 X2 X3 \in X1))))))
\end{aligned}$$