

t24_vfunct_2

(TMTAsEDRFBMidg5j4eJc4Lx76i61XhWcAQv)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. 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 $v3_normsp_0 : \iota \Rightarrow o$ be given. Let $v4_normsp_0 : \iota \Rightarrow o$ be given. Let $v2_clvect_1 : \iota \Rightarrow o$ be given. Let $v3_clvect_1 : \iota \Rightarrow o$ be given. Let $v4_clvect_1 : \iota \Rightarrow o$ be given. Let $v5_clvect_1 : \iota \Rightarrow o$ be given. Let $v8_clvect_1 : \iota \Rightarrow o$ be given. Let $l2_clvect_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ 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 $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_vfunct_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_vfunct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_complex1 : \iota \Rightarrow \iota$ be given. Let $k6_complex1 : \iota$ be given. Let $k2_numbers : \iota$ be given. Let $k9_complex1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $v1_membered : \iota \Rightarrow o$ be given. Let $l1_clvect_1 : \iota \Rightarrow o$ be given. Let $l2_normsp_0 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge \\
 & ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 \\
 & X1) \wedge ((v3_normsp_0 X1) \wedge ((v4_normsp_0 X1) \wedge ((v2_clvect_1 X1) \wedge \\
 & ((v3_clvect_1 X1) \wedge ((v4_clvect_1 X1) \wedge ((v5_clvect_1 X1) \wedge ((v8_clvect_1 \\
 & X1) \wedge (l2_clvect_1 X1)))))))))) \Rightarrow (\forall X2. ((v1_funct_1 \\
 & X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 \\
 & X1)))) \Rightarrow (r2_relset_1 X0 (u1_struct_0 X1) (k5_vfunct_1 X0 X1 X2) \\
 & (k2_vfunct_2 X0 X1 X2 (k10_complex1 k6_complex1))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\ & ((v13_algstr_0 X1) \wedge (v2_rlvect_1 X1) \wedge (v3_rlvect_1 X1) \wedge (v4_rlvect_1 \\ & X1) \wedge (v3_normsp_0 X1) \wedge (v4_normsp_0 X1) \wedge (v2_clvect_1 X1) \wedge \\ & ((v3_clvect_1 X1) \wedge (v4_clvect_1 X1) \wedge (v5_clvect_1 X1) \wedge (v8_clvect_1 \\ & X1) \wedge (l2_clvect_1 X1)))))) \Rightarrow (\forall X2.((v1_funct_1 \\ & X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 \\ & X1)))) \Rightarrow (r2_relset_1 X0 (u1_struct_0 X1) (k2_vfunct_2 X0 X1 X2 \\ & k6_complex1 X2))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\ & ((v13_algstr_0 X1) \wedge (v2_rlvect_1 X1) \wedge (v3_rlvect_1 X1) \wedge (v4_rlvect_1 \\ & X1) \wedge (v3_normsp_0 X1) \wedge (v4_normsp_0 X1) \wedge (v2_clvect_1 X1) \wedge \\ & ((v3_clvect_1 X1) \wedge (v4_clvect_1 X1) \wedge (v5_clvect_1 X1) \wedge (v8_clvect_1 \\ & X1) \wedge (l2_clvect_1 X1)))))) \Rightarrow (\forall X2.((v1_funct_1 \\ & X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 \\ & X1)))) \Rightarrow (\forall X3.(m1_subset_1 X3 k2_numbers) \Rightarrow (\forall X4. \\ & (m1_subset_1 X4 k2_numbers) \Rightarrow (r2_relset_1 X0 (u1_struct_0 X1) \\ & (k2_vfunct_2 X0 X1 X2 (k9_complex1 X3 X4)) (k2_vfunct_2 X0 X1 (k2_vfunct_2 \\ & X0 X1 X2 X4) X3)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k3_xcmplx_0 X0 (k4_xcmplx_0 np_{-1}) = k4_xcmplx_0 X0) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((m1_subset_1 X2 \\ & (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))) \Rightarrow ((r2_relset_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3)) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k2_numbers) \wedge (m1_subset_1 X1 k2_numbers)) \Rightarrow (k9_complex1 X0 X1 = k3_xcmplx_0 X0 X1) \quad (6)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k2_numbers) \Rightarrow (k10_complex1 X0 = k4_xcmplx_0 X0) \quad (7)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k4_xcmplx_0 (k4_xcmplx_0 X0) = X0) \quad (8)$$

Assume the following.

$$v1_membered\ k2_numbers \quad (9)$$

Assume the following.

$$\forall X0.(l2_clvect_1\ X0) \Rightarrow ((l1_clvect_1\ X0) \wedge (l2_normsp_0\ X0)) \quad (10)$$

Assume the following.

$$\forall X0.(l1_clvect_1\ X0) \Rightarrow (l2_algstr_0\ X0) \quad (11)$$

Assume the following.

$$m1_subset_1\ k6_complex1\ k2_numbers \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0\ X0) \wedge (((\neg v2_struct_0 \\ & X1) \wedge (l2_algstr_0\ X1) \wedge ((v1_funct_1\ X2) \wedge (m1_subset_1\ X2\ (k1_zfmisc_1 \\ & (k2_zfmisc_1\ X0\ (u1_struct_0\ X1)))))) \Rightarrow ((v1_funct_1\ (k5_vfunct_1 \\ & X0\ X1\ X2)) \wedge (m1_subset_1\ (k5_vfunct_1\ X0\ X1\ X2)\ (k1_zfmisc_1\ (k2_zfmisc_1 \\ & X0\ (u1_struct_0\ X1)))))) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0\ X0) \Rightarrow (v1_xcmplx_0\ (k4_xcmplx_0\ X0)) \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0\ X0) \wedge \\ & (((\neg v2_struct_0\ X1) \wedge ((v13_algstr_0\ X1) \wedge ((v2_rlvect_1\ X1) \wedge \\ & (v3_rlvect_1\ X1) \wedge ((v4_rlvect_1\ X1) \wedge ((v3_normsp_0\ X1) \wedge ((v4_normsp_0 \\ & X1) \wedge ((v2_clvect_1\ X1) \wedge ((v3_clvect_1\ X1) \wedge ((v4_clvect_1\ X1) \wedge \\ & ((v5_clvect_1\ X1) \wedge ((v8_clvect_1\ X1) \wedge (l2_clvect_1\ X1)))))))))) \wedge \\ & (((v1_funct_1\ X2) \wedge (m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1 \\ & X0\ (u1_struct_0\ X1)))))) \wedge (v1_xcmplx_0\ X3))) \Rightarrow ((v1_funct_1\ (k2_vfunct_2 \\ & X0\ X1\ X2\ X3)) \wedge (m1_subset_1\ (k2_vfunct_2\ X0\ X1\ X2\ X3)\ (k1_zfmisc_1 \\ & (k2_zfmisc_1\ X0\ (u1_struct_0\ X1)))))) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k2_numbers) \Rightarrow (m1_subset_1\ (k10_complex1\ X0)\ k2_numbers) \quad (16)$$

Assume the following.

$$k6_complex1 = np_1 \quad (17)$$

Assume the following.

$$\forall X0.(v1_membered\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ X0) \Rightarrow (v1_xcmplx_0\ X1)) \quad (18)$$

Theorem 1

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge \\ & ((v13_algstr_0 X1) \wedge (v2_rlvect_1 X1) \wedge (v3_rlvect_1 X1) \wedge (v4_rlvect_1 \\ & X1) \wedge (v3_normsp_0 X1) \wedge (v4_normsp_0 X1) \wedge (v2_clvect_1 X1) \wedge \\ & ((v3_clvect_1 X1) \wedge (v4_clvect_1 X1) \wedge (v5_clvect_1 X1) \wedge (v8_clvect_1 \\ & X1) \wedge (l2_clvect_1 X1)))))) \Rightarrow (\forall X2. ((v1_funct_1 \\ & X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 \\ & X1)))))) \Rightarrow (r2_relset_1 X0 (u1_struct_0 X1) (k5_vfunct_1 X0 X1 (k5_vfunct_1 \\ & X0 X1 X2)) X2))) \end{aligned}$$