

t38_vfunct_2

(TMK5TN9vBd9m3U9yfgrNBKvK4SN1F4QXhoj)

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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 $k2_numbers : \iota$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_vfunct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_clvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge \\
 & ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 \\
 & X1) \wedge ((v3_normsp_0 X1) \wedge ((v4_normsp_0 X1) \wedge ((v2_clvect_1 X1) \wedge \\
 & ((v3_clvect_1 X1) \wedge ((v4_clvect_1 X1) \wedge ((v5_clvect_1 X1) \wedge ((v8_clvect_1 \\
 & X1) \wedge (l2_clvect_1 X1)))))))))) \Rightarrow (\forall X2. ((v1_funct_1 \\
 & X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 \\
 & X1)))) \Rightarrow (\forall X3. ((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\
 & (k2_zfmisc_1 X0 k2_numbers)))) \Rightarrow (((v1_partfun1 X3 X0) \wedge (v1_partfun1 \\
 & X2 X0)) \Leftrightarrow (v1_partfun1 (k1_vfunct_2 X0 X1 X3 X2) X0))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge \\
& (((\neg v2_struct_0 X1)\wedge((v13_algstr_0 X1)\wedge((v2_rlvect_1 X1)\wedge \\
& (v3_rlvect_1 X1)\wedge((v4_rlvect_1 X1)\wedge((v3_normsp_0 X1)\wedge((v4_normsp_0 \\
& X1)\wedge((v2_clvect_1 X1)\wedge((v3_clvect_1 X1)\wedge((v4_clvect_1 X1)\wedge \\
& ((v5_clvect_1 X1)\wedge((v8_clvect_1 X1)\wedge(l2_clvect_1 X1))))))))))\wedge \\
& (((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 k2_numbers))))\wedge((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 (u1_struct_0 X1))))))\Rightarrow((v1_funct_1 (k1_vfunct_2 \\
& X0 X1 X2 X3))\wedge(m1_subset_1 (k1_vfunct_2 X0 X1 X2 X3) (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 (u1_struct_0 X1))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(\\
& (v1_partfun1 X1 X0)\Leftrightarrow(k1_relset_1 X0 X1 = X0))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.((\neg v2_struct_0 X1)\wedge \\
& ((v13_algstr_0 X1)\wedge((v2_rlvect_1 X1)\wedge((v3_rlvect_1 X1)\wedge((v4_rlvect_1 \\
& X1)\wedge((v3_normsp_0 X1)\wedge((v4_normsp_0 X1)\wedge((v2_clvect_1 X1)\wedge \\
& ((v3_clvect_1 X1)\wedge((v4_clvect_1 X1)\wedge((v5_clvect_1 X1)\wedge((v8_clvect_1 \\
& X1)\wedge(l2_clvect_1 X1))))))))))\Rightarrow(\forall X2.((v1_funct_1 \\
& X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 k2_numbers))))\Rightarrow \\
& (\forall X3.((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 (u1_struct_0 X1))))\Rightarrow(\forall X4.((v1_funct_1 X4)\wedge(m1_subset_1 \\
& X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 X1))))\Rightarrow((X4 = k1_vfunct_2 \\
& X0 X1 X2 X3)\Leftrightarrow((k1_relset_1 X0 X4 = k9_subset_1 X0 (k1_relset_1 X0 \\
& X2) (k1_relset_1 X0 X3))\wedge(\forall X5.(m1_subset_1 X5 X0)\Rightarrow((X5 \in \\
& k1_relset_1 X0 X4)\Rightarrow(k7_partfun1 (u1_struct_0 X1) X4 X5 = k1_clvect_1 \\
& X1 (k7_partfun1 (u1_struct_0 X1) X3 X5) (k7_partfun1 k2_numbers \\
& X2 X5))))))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 X1))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 X1))\Rightarrow(v1_relat_1 X2)
\end{aligned} \tag{7}$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\ & ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 \\ & X1) \wedge ((v3_normsp_0 X1) \wedge ((v4_normsp_0 X1) \wedge ((v2_clvect_1 X1) \wedge \\ & ((v3_clvect_1 X1) \wedge ((v4_clvect_1 X1) \wedge ((v5_clvect_1 X1) \wedge ((v8_clvect_1 \\ & X1) \wedge (l2_clvect_1 X1)))))))))) \Rightarrow (\forall X2.((v1_funct_1 \\ & X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 \\ & X1)))))) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 k2_numbers)))))) \Rightarrow (\forall X4.(m1_subset_1 X4 X0) \Rightarrow \\ & ((v1_partfun1 X3 X0) \wedge (v1_partfun1 X2 X0)) \Rightarrow (k7_partfun1 (u1_struct_0 \\ & X1) (k1_vfunct_2 X0 X1 X3 X2) X4 = k1_clvect_1 X1 (k7_partfun1 (u1_struct_0 \\ & X1) X2 X4) (k7_partfun1 k2_numbers X3 X4)))))) \end{aligned}$$