

t48_vfunct_1 (TMFSnfxTohd- WFHe5LqGN6vkZq7EeFhGXhhn)

October 27, 2020

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 $v5_rlvect_1 : \iota \Rightarrow o$ 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 $v3_normsp_0 : \iota \Rightarrow o$ be given. Let $v4_normsp_0 : \iota \Rightarrow o$ be given. Let $v2_normsp_1 : \iota \Rightarrow o$ be given. Let $l1_normsp_1 : \iota \Rightarrow o$ 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 $r1_vfunct_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_vfunct_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_vfunct_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_comseq_2 : \iota \Rightarrow o$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k3_normsp_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_vfunct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l2_normsp_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (\neg v1_xboole_0 X2) \Rightarrow (\forall X3. \\
& ((\neg v2_struct_0 X3) \wedge ((v13_algstr_0 X3) \wedge (v2_rlvect_1 X3) \wedge ((\\
& v3_rlvect_1 X3) \wedge ((v4_rlvect_1 X3) \wedge ((v5_rlvect_1 X3) \wedge ((v6_rlvect_1 \\
& X3) \wedge ((v7_rlvect_1 X3) \wedge ((v8_rlvect_1 X3) \wedge ((v3_normsp_0 X3) \wedge \\
& ((v4_normsp_0 X3) \wedge ((v2_normsp_1 X3) \wedge (l1_normsp_1 X3)))))))))) \Rightarrow \\
& (\forall X4. ((v1_funct_1 X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X2 (u1_struct_0 X3)))))) \Rightarrow (\forall X5. ((v1_funct_1 X5) \wedge (m1_subset_1 \\
& X5 (k1_zfmisc_1 (k2_zfmisc_1 X2 (u1_struct_0 X3)))))) \Rightarrow (((r1_vfunct_1 \\
& X2 X3 X4 X0) \wedge (r1_vfunct_1 X2 X3 X5 X1)) \Rightarrow (r1_vfunct_1 X2 X3 (k6_vfunct_1 \\
& X2 X3 X4 X5) (k3_xboole_0 X0 X1))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (\neg v1_xboole_0 X1) \Rightarrow (\forall X2. ((\neg v2_struct_0 \\
& X2) \wedge ((v13_algstr_0 X2) \wedge ((v2_rlvect_1 X2) \wedge ((v3_rlvect_1 X2) \wedge \\
& ((v4_rlvect_1 X2) \wedge ((v5_rlvect_1 X2) \wedge ((v6_rlvect_1 X2) \wedge ((v7_rlvect_1 \\
& X2) \wedge ((v8_rlvect_1 X2) \wedge ((v3_normsp_0 X2) \wedge ((v4_normsp_0 X2) \wedge \\
& ((v2_normsp_1 X2) \wedge (l1_normsp_1 X2)))))))))) \Rightarrow (\forall X3. \\
& ((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X1 \\
& (u1_struct_0 X2)))))) \Rightarrow ((r1_vfunct_1 X1 X2 X3 X0) \Rightarrow ((v1_comseq_2 \\
& (k2_partfun1 X1 k1_numbers (k3_normsp_0 X1 X2 X3) X0)) \wedge (r1_vfunct_1 \\
& X1 X2 (k5_vfunct_1 X1 X2 X3) X0))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge \\
& ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 \\
& X1) \wedge ((v5_rlvect_1 X1) \wedge ((v6_rlvect_1 X1) \wedge ((v7_rlvect_1 X1) \wedge \\
& ((v8_rlvect_1 X1) \wedge ((v3_normsp_0 X1) \wedge ((v4_normsp_0 X1) \wedge ((v2_normsp_1 \\
& X1) \wedge (l1_normsp_1 X1)))))))))) \Rightarrow (\forall X2. ((v1_funct_1 \\
& X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 \\
& X1)))))) \Rightarrow (\forall X3. ((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 (u1_struct_0 X1)))))) \Rightarrow (r2_relset_1 X0 (u1_struct_0 \\
& X1) (k2_vfunct_1 X0 X1 X2 X3) (k6_vfunct_1 X0 X1 X2 (k5_vfunct_1 X0 \\
& X1 X3))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. ((m1_subset_1 X2 \\
& (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 X1)))) \Rightarrow ((r2_relset_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3))
\end{aligned} \tag{4}$$

Assume the following.

$$\forall X0. (l1_rlvect_1 X0) \Rightarrow (l2_algstr_0 X0) \tag{5}$$

Assume the following.

$$\forall X0. (l1_normsp_1 X0) \Rightarrow ((l1_rlvect_1 X0) \wedge (l2_normsp_0 X0)) \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge \\
& (((\neg v2_struct_0 X1)\wedge((v13_algstr_0 X1)\wedge((v2_rlvect_1 X1)\wedge \\
& (v3_rlvect_1 X1)\wedge((v4_rlvect_1 X1)\wedge((v5_rlvect_1 X1)\wedge((v6_rlvect_1 \\
& X1)\wedge((v7_rlvect_1 X1)\wedge((v8_rlvect_1 X1)\wedge((v3_normsp_0 X1)\wedge \\
& ((v4_normsp_0 X1)\wedge((v2_normsp_1 X1)\wedge(l1_normsp_1 X1))))))))))\wedge \\
& (((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 (u1_struct_0 X1))))))\wedge((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 (u1_struct_0 X1))))))\Rightarrow((v1_funct_1 (k6_vfunct_1 \\
& X0 X1 X2 X3))\wedge(m1_subset_1 (k6_vfunct_1 X0 X1 X2 X3) (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 (u1_struct_0 X1))))))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge(((\neg v2_struct_0 \\
& X1)\wedge(l2_algstr_0 X1))\wedge((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 (u1_struct_0 X1))))))\Rightarrow((v1_funct_1 (k5_vfunct_1 \\
& X0 X1 X2))\wedge(m1_subset_1 (k5_vfunct_1 X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 (u1_struct_0 X1))))))
\end{aligned} \tag{8}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge \\
& (((\neg v2_struct_0 X1)\wedge(l2_algstr_0 X1))\wedge(((v1_funct_1 X2)\wedge(m1_subset_1 \\
& X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 X1))))))\wedge((v1_funct_1 \\
& X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 \\
& X1))))))\Rightarrow((v1_funct_1 (k2_vfunct_1 X0 X1 X2 X3))\wedge(m1_subset_1 \\
& (k2_vfunct_1 X0 X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 \\
& X1))))))
\end{aligned} \tag{9}$$

Theorem 1

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(\neg v1_xboole_0 X2)\Rightarrow(\forall X3. \\
& ((\neg v2_struct_0 X3)\wedge((v13_algstr_0 X3)\wedge((v2_rlvect_1 X3)\wedge((\\
& v3_rlvect_1 X3)\wedge((v4_rlvect_1 X3)\wedge((v5_rlvect_1 X3)\wedge((v6_rlvect_1 \\
& X3)\wedge((v7_rlvect_1 X3)\wedge((v8_rlvect_1 X3)\wedge((v3_normsp_0 X3)\wedge \\
& ((v4_normsp_0 X3)\wedge((v2_normsp_1 X3)\wedge(l1_normsp_1 X3))))))))))\Rightarrow \\
& (\forall X4.((v1_funct_1 X4)\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X2 (u1_struct_0 X3))))))\Rightarrow(\forall X5.((v1_funct_1 X5)\wedge(m1_subset_1 \\
& X5 (k1_zfmisc_1 (k2_zfmisc_1 X2 (u1_struct_0 X3))))))\Rightarrow(((r1_vfunct_1 \\
& X2 X3 X4 X0)\wedge(r1_vfunct_1 X2 X3 X5 X1))\Rightarrow(r1_vfunct_1 X2 X3 (k2_vfunct_1 \\
& X2 X3 X4 X5) (k3_xboole_0 X0 X1))))))
\end{aligned}$$