

t32_vfunct_2 (TMcBsTby- wxF1tu4UZWR7ghX7ru6fTWUxHQU)

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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 $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_vfunct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_vfunct_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_vfunct_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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. 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 $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. r1_tarski (k3_xboole_0 X0 X1) X0 \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 X0)) \Rightarrow (k9_subset_1 X0 X1 X2 = k3_xboole_0 X1 X2) \quad (3)$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge \\
& (((\neg v2_struct_0 X1)\wedge((v13_algstr_0 X1)\wedge((v2_rlvect_1 X1)\wedge \\
& (v3_rlvect_1 X1)\wedge((v4_rlvect_1 X1)\wedge((v3_normsp_0 X1)\wedge((v4_normsp_0 \\
& X1)\wedge((v2_clvect_1 X1)\wedge((v3_clvect_1 X1)\wedge((v4_clvect_1 X1)\wedge \\
& ((v5_clvect_1 X1)\wedge((v8_clvect_1 X1)\wedge(l2_clvect_1 X1))))))))))\wedge \\
& (((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 (u1_struct_0 X1))))))\wedge((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 (u1_struct_0 X1))))))\Rightarrow(k3_vfunct_2 X0 X1 X2 \\
& X3 = k1_vfunct_1 X0 X1 X2 X3)
\end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 X0))\Rightarrow(k9_subset_1 X0 X1 X1 = X1) \tag{5}$$

Assume the following.

$$\forall X0.(l2_clvect_1 X0)\Rightarrow((l1_clvect_1 X0)\wedge(l2_normsp_0 X0)) \tag{6}$$

Assume the following.

$$\forall X0.(l1_clvect_1 X0)\Rightarrow(l2_algstr_0 X0) \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge \\
& (((\neg v2_struct_0 X1)\wedge((v13_algstr_0 X1)\wedge((v2_rlvect_1 X1)\wedge \\
& (v3_rlvect_1 X1)\wedge((v4_rlvect_1 X1)\wedge((v3_normsp_0 X1)\wedge((v4_normsp_0 \\
& X1)\wedge((v2_clvect_1 X1)\wedge((v3_clvect_1 X1)\wedge((v4_clvect_1 X1)\wedge \\
& ((v5_clvect_1 X1)\wedge((v8_clvect_1 X1)\wedge(l2_clvect_1 X1))))))))))\wedge \\
& (((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 (u1_struct_0 X1))))))\wedge((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 (u1_struct_0 X1))))))\Rightarrow((v1_funct_1 (k3_vfunct_2 \\
& X0 X1 X2 X3))\wedge(m1_subset_1 (k3_vfunct_2 X0 X1 X2 X3) (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 (u1_struct_0 X1))))))
\end{aligned} \tag{8}$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(m1_subset_1 (k1_relset_1 X0 X1) (k1_zfmisc_1 X0)) \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.((\neg v2_struct_0 X1)\wedge \\ & (l2_algstr_0 X1))\Rightarrow(\forall X2.((v1_funct_1 X2)\wedge(m1_subset_1 \\ & X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 X1))))\Rightarrow(\forall X3. \\ & ((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 \\ & (u1_struct_0 X1))))\Rightarrow(\forall X4.((v1_funct_1 X4)\wedge(m1_subset_1 \\ & X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 X1))))\Rightarrow((X4 = k2_vfunct_1 \\ & X0 X1 X2 X3)\Leftrightarrow((k1_relset_1 X0 X4 = k9_subset_1 X0 (k1_relset_1 X0 \\ & X2) (k1_relset_1 X0 X3))\wedge(\forall X5.(m1_subset_1 X5 X0)\Rightarrow((X5 \in \\ & k1_relset_1 X0 X4)\Rightarrow(k7_partfun1 (u1_struct_0 X1) X4 X5 = k5_algstr_0 \\ & X1 (k7_partfun1 (u1_struct_0 X1) X2 X5) (k7_partfun1 (u1_struct_0 \\ & X1) X3 X5)))))))))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow((v1_partfun1 X1 X0)\Leftrightarrow(k1_relset_1 X0 X1 = X0)) \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.((\neg v2_struct_0 X1)\wedge \\ & (l2_algstr_0 X1))\Rightarrow(\forall X2.((v1_funct_1 X2)\wedge(m1_subset_1 \\ & X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 X1))))\Rightarrow(\forall X3. \\ & ((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 \\ & (u1_struct_0 X1))))\Rightarrow(\forall X4.((v1_funct_1 X4)\wedge(m1_subset_1 \\ & X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 X1))))\Rightarrow((X4 = k1_vfunct_1 \\ & X0 X1 X2 X3)\Leftrightarrow((k1_relset_1 X0 X4 = k9_subset_1 X0 (k1_relset_1 X0 \\ & X2) (k1_relset_1 X0 X3))\wedge(\forall X5.(m1_subset_1 X5 X0)\Rightarrow((X5 \in \\ & k1_relset_1 X0 X4)\Rightarrow(k7_partfun1 (u1_struct_0 X1) X4 X5 = k1_algstr_0 \\ & X1 (k7_partfun1 (u1_struct_0 X1) X2 X5) (k7_partfun1 (u1_struct_0 \\ & X1) X3 X5)))))))))) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1)\Leftrightarrow((r1_tarski X0 X1)\wedge(r1_tarski X1 X0)) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \quad (17)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.((\neg v2_struct_0 X1)\wedge \\ & ((v13_algstr_0 X1)\wedge(v2_rlvect_1 X1)\wedge(v3_rlvect_1 X1)\wedge(v4_rlvect_1 \\ & X1)\wedge(v3_normsp_0 X1)\wedge(v4_normsp_0 X1)\wedge(v2_clvect_1 X1)\wedge \\ & ((v3_clvect_1 X1)\wedge(v4_clvect_1 X1)\wedge(v5_clvect_1 X1)\wedge(v8_clvect_1 \\ & X1)\wedge(l2_clvect_1 X1))))))\Rightarrow(\forall X2.((v1_funct_1 \\ & X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 \\ & X1))))\Rightarrow(\forall X3.((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 (u1_struct_0 X1))))\Rightarrow(((v1_partfun1 X2 X0)\wedge \\ & (v1_partfun1 X3 X0))\Rightarrow(v1_partfun1 (k3_vfunct_2 X0 X1 X2 X3) X0))\wedge \\ & (((v1_partfun1 (k3_vfunct_2 X0 X1 X2 X3) X0)\Rightarrow((v1_partfun1 X2 X0)\wedge \\ & (v1_partfun1 X3 X0)))\wedge(((v1_partfun1 X2 X0)\wedge(v1_partfun1 X3 \\ & X0))\Rightarrow(v1_partfun1 (k2_vfunct_1 X0 X1 X2 X3) X0))\wedge((v1_partfun1 \\ & (k2_vfunct_1 X0 X1 X2 X3) X0)\Rightarrow((v1_partfun1 X2 X0)\wedge(v1_partfun1 \\ & X3 X0))))))))) \end{aligned}$$