

t59_bhsp_1 (TMRQDTUHzsd- FgeZb5FQSZmP9fVnZw1fWze1)

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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 $v5_rlvect.1 : \iota \Rightarrow o$ 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 $v2_bhsp.1 : \iota \Rightarrow o$ be given. Let $l1_bhsp.1 : \iota \Rightarrow o$ be given. Let $v1_funct.1 : \iota \Rightarrow o$ be given. Let $v1_funct.2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $u1_struct.0 : \iota \Rightarrow \iota$ 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 $r2_funct.2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_vfunct.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_subset.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $l2_algstr.0 : \iota \Rightarrow o$ be given. Let $k1_normsp.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_algstr.0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole.0 : \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $l1_struct.0 : \iota \Rightarrow o$ be given. Let $k1_funct.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l2_struct.0 : \iota \Rightarrow o$ be given. Let $l1_algstr.0 : \iota \Rightarrow o$ be given. Let $l1_rlvect.1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m2_subset.1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\ & ((\neg v2_struct.0 X1) \wedge (l2_algstr.0 X1)) \Rightarrow (\forall X2. ((v1_funct.1 \\ & X2) \wedge ((v1_funct.2 X2 k5_numbers (u1_struct.0 X1)) \wedge (m1_subset.1 \\ & X2 (k1_zfmisc.1 (k2_zfmisc.1 k5_numbers (u1_struct.0 X1)))))) \Rightarrow \\ & (k1_normsp.1 X1 (k5_vfunct.1 k5_numbers X1 X2) X0 = k4_algstr.0 \\ & X1 (k1_normsp.1 X1 X2 X0))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct.0 X0) \wedge ((v13_algstr.0 X0) \wedge ((v3_rlvect.1 \\ & X0) \wedge ((v4_rlvect.1 X0) \wedge (l2_algstr.0 X0)))) \Rightarrow (\forall X1. (m1_subset.1 \\ & X1 (u1_struct.0 X0)) \Rightarrow (k4_algstr.0 X0 (k4_algstr.0 X0 X1) = X1)) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole.0 X0) \wedge ((\neg v1_xboole.0 X1) \wedge \\ & (m1_subset.1 X1 (k1_zfmisc.1 X0)))) \Rightarrow (\forall X2. (m2_subset.1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset.1 X2 X1)) \end{aligned} \tag{3}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge(l1_struct_0 \\ X0))\wedge(((v1_funct_1 X1)\wedge((v1_funct_2 X1 k5_numbers (u1_struct_0 \\ X0))\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\ X0))))))\wedge(m1_subset_1 X2 k5_numbers)))\Rightarrow(k1_normsp_1 X0 X1 X2 = \\ k1_funct_1 X1 X2) \end{aligned} \quad (5)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1)\wedge(v3_ordinal1 k4_ordinal1) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge(((\neg v2_struct_0 \\ X1)\wedge(l2_algstr_0 X1))\wedge((v1_funct_1 X2)\wedge((v1_funct_2 X2 X0 (u1_struct_0 \\ X1))\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 \\ X1))))))))\Rightarrow((v1_funct_1 (k5_vfunct_1 X0 X1 X2))\wedge(v1_partfun1 \\ (k5_vfunct_1 X0 X1 X2) X0)) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(l2_struct_0 X0)\Rightarrow(l1_struct_0 X0) \quad (8)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0)\Rightarrow((l2_struct_0 X0)\wedge(l1_algstr_0 X0)) \quad (9)$$

Assume the following.

$$\forall X0.(l1_rlvect_1 X0)\Rightarrow(l2_algstr_0 X0) \quad (10)$$

Assume the following.

$$\forall X0.(l1_bhsp_1 X0)\Rightarrow(l1_rlvect_1 X0) \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge(((\neg v2_struct_0 \\ X1)\wedge(l2_algstr_0 X1))\wedge((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 (u1_struct_0 X1))))))))\Rightarrow((v1_funct_1 (k5_vfunct_1 \\ X0 X1 X2))\wedge(m1_subset_1 (k5_vfunct_1 X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 \\ X0 (u1_struct_0 X1)))))) \end{aligned} \quad (12)$$

Assume the following.

$$m1_subset_1\ k5_numbers\ (k1_zfmisc_1\ k1_numbers) \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0\ X0)\wedge(l1_struct_0 \\ & X0))\wedge(((v1_funct_1\ X1)\wedge((v1_funct_2\ X1\ k5_numbers\ (u1_struct_0 \\ & X0))\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ k5_numbers\ (u1_struct_0 \\ & X0))))))\wedge(m1_subset_1\ X2\ k5_numbers)))\Rightarrow(m1_subset_1\ (k1_normsp_1 \\ & X0\ X1\ X2)\ (u1_struct_0\ X0)) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v1_funct_1\ X2)\wedge((v1_funct_2 \\ & X2\ X0\ X1)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1))))\Rightarrow \\ & (\forall X3.((v1_funct_1\ X3)\wedge((v1_funct_2\ X3\ X0\ X1)\wedge(m1_subset_1 \\ & X3\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1))))\Rightarrow((r2_funct_2\ X0\ X1\ X2\ X3)\Leftrightarrow \\ & (\forall X4.(m1_subset_1\ X4\ X0)\Rightarrow(k1_funct_1\ X2\ X4 = k1_funct_1 \\ & X3\ X4)))) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0.(v1_xboole_0\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ X0))\Rightarrow(v1_xboole_0\ X1)) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))\Rightarrow((v1_partfun1\ X2\ X0)\Rightarrow(v1_funct_2\ X2\ X0\ X1)) \quad (17)$$

Theorem 1

$$\begin{aligned} & \forall X0.(((\neg v2_struct_0\ X0)\wedge((v13_algstr_0\ X0)\wedge((v2_rlvect_1 \\ & X0)\wedge((v3_rlvect_1\ X0)\wedge((v4_rlvect_1\ X0)\wedge((v5_rlvect_1\ X0)\wedge \\ & ((v6_rlvect_1\ X0)\wedge((v7_rlvect_1\ X0)\wedge((v8_rlvect_1\ X0)\wedge((v2_bhsp_1 \\ & X0)\wedge(l1_bhsp_1\ X0))))))))))\Rightarrow(\forall X1.((v1_funct_1\ X1)\wedge \\ & ((v1_funct_2\ X1\ k5_numbers\ (u1_struct_0\ X0))\wedge(m1_subset_1\ X1 \\ & (k1_zfmisc_1\ (k2_zfmisc_1\ k5_numbers\ (u1_struct_0\ X0))))\Rightarrow \\ & (r2_funct_2\ k5_numbers\ (u1_struct_0\ X0)\ X1\ (k5_vfunct_1\ k5_numbers \\ & X0\ (k5_vfunct_1\ k5_numbers\ X0\ X1)))) \end{aligned}$$