

t63_csspace
(TMcYSb1ej4TmXLkPFp9G89sLhf1dkhEtntL)

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Let $v1_xcmplx_0 : \iota \Rightarrow o$ 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 $v2_clvect_1 : \iota \Rightarrow o$ 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 $v2_csspace : \iota \Rightarrow o$ be given. Let $l1_csspace : \iota \Rightarrow o$ 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 $v3_funct_1 : \iota \Rightarrow o$ be given. Let $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_clvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $k1_normsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $l1_clvect_1 : \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_clvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((v1_funct_1 X2) \wedge \\ & ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))))) \wedge ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X0 X1) \wedge (m1_subset_1 \\ & X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow ((r2_funct_2 X0 X1 X2 \\ & X3) \Leftrightarrow (X2 = X3)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (3)$$

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.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l1_struct_0 X0))\Rightarrow(\neg v1_xboole_0 \\ (u1_struct_0 X0)) \quad (7)$$

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.

$$\forall X0.(l1_csspace X0)\Rightarrow(l1_clvect_1 X0) \quad (10)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge((v13_algstr_0 \\ X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge \\ ((v2_clvect_1 X0)\wedge((v3_clvect_1 X0)\wedge((v4_clvect_1 X0)\wedge((v5_clvect_1 \\ X0)\wedge(l1_clvect_1 X0))))))))))\wedge(((v1_funct_1 X1)\wedge((v1_funct_2 \\ X1 k5_numbers (u1_struct_0 X0))\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\ (k2_zfmisc_1 k5_numbers (u1_struct_0 X0))))))\wedge(v1_xcmplx_0 \\ X2)))\Rightarrow((v1_funct_1 (k6_clvect_1 X0 X1 X2))\wedge((v1_funct_2 (k6_clvect_1 \\ X0 X1 X2) k5_numbers (u1_struct_0 X0))\wedge(m1_subset_1 (k6_clvect_1 \\ X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 X0)))))) \end{aligned} \quad (12)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 \ X0) \wedge ((v4_relat_1 \ X0 \ k5_numbers) \wedge ((v1_funct_1 \\ X0) \wedge (v1_partfun1 \ X0 \ k5_numbers)))) \Rightarrow ((v3_funct_1 \ X0) \Leftrightarrow (\exists X1. \\ \forall X2.(v7_ordinal1 \ X2) \Rightarrow (k1_funct_1 \ X0 \ X2 = X1))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 \ X0) \wedge ((v13_algstr_0 \ X0) \wedge ((v2_rlvect_1 \\ X0) \wedge ((v3_rlvect_1 \ X0) \wedge ((v4_rlvect_1 \ X0) \wedge ((v2_clvect_1 \ X0) \wedge \\ ((v3_clvect_1 \ X0) \wedge ((v4_clvect_1 \ X0) \wedge ((v5_clvect_1 \ X0) \wedge (l1_clvect_1 \\ X0)))))))))) \Rightarrow (\forall X1.((v1_funct_1 \ X1) \wedge ((v1_funct_2 \ X1 \ k5_numbers \\ (u1_struct_0 \ X0)) \wedge (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \\ k5_numbers \ (u1_struct_0 \ X0)))))) \Rightarrow (\forall X2.(v1_xcmplx_0 \ X2) \Rightarrow \\ (\forall X3.((v1_funct_1 \ X3) \wedge ((v1_funct_2 \ X3 \ k5_numbers \ (u1_struct_0 \\ X0)) \wedge (m1_subset_1 \ X3 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \ (u1_struct_0 \\ X0)))))) \Rightarrow ((X3 = k6_clvect_1 \ X0 \ X1 \ X2) \Leftrightarrow (\forall X4.(m2_subset_1 \\ X4 \ k1_numbers \ k5_numbers) \Rightarrow (k1_normsp_1 \ X0 \ X3 \ X4 = k1_clvect_1 \ X0 \\ (k1_normsp_1 \ X0 \ X1 \ X4) \ X2)))))) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0.(v7_ordinal1 \ X0) \Leftrightarrow (X0 \in k4_ordinal1) \quad (16)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(\neg v1_xboole_0 \ X1) \Rightarrow (\forall X2.(m1_subset_1 \\ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1))) \Rightarrow ((v1_funct_2 \ X2 \ X0 \ X1) \Rightarrow (\\ v1_partfun1 \ X2 \ X0))) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(m1_subset_1 \ X2 \ (k1_zfmisc_1 \\ (k2_zfmisc_1 \ X0 \ X1))) \Rightarrow ((v4_relat_1 \ X2 \ X0) \wedge (v5_relat_1 \ X2 \ X1)) \end{aligned} \quad (18)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xboole_0 \ X0) \Rightarrow (\forall X1.(m1_subset_1 \ X1 \ (k1_zfmisc_1 \\ X0)) \Rightarrow (v1_xboole_0 \ X1)) \end{aligned} \quad (19)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(m1_subset_1 \ X2 \ (k1_zfmisc_1 \\ (k2_zfmisc_1 \ X0 \ X1))) \Rightarrow (v1_relat_1 \ X2) \end{aligned} \quad (20)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v1_xcmplx_0 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\ & ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 \\ & X1) \wedge ((v2_clvect_1 X1) \wedge ((v3_clvect_1 X1) \wedge ((v4_clvect_1 X1) \wedge \\ & ((v5_clvect_1 X1) \wedge ((v2_csspace X1) \wedge (l1_csspace X1)))))))))) \Rightarrow \\ & (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 k5_numbers (u1_struct_0 \\ X1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\ X1)))))) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge ((v1_funct_2 X3 k5_numbers \\ (u1_struct_0 X1)) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\ k5_numbers (u1_struct_0 X1)))))) \Rightarrow (((v3_funct_1 X2) \wedge (r2_funct_2 \\ k5_numbers (u1_struct_0 X1) X3 (k6_clvect_1 X1 X2 X0))) \Rightarrow (v3_funct_1 \\ X3)))))) \end{aligned}$$