

l15_csspace2

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k18_csspace : \iota$ be given. Let $k5_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k46_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k2_numbers : \iota$ be given. Let $k2_csspace : \iota \Rightarrow \iota$ 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 $k1_zfmisc_1 : \iota \Rightarrow \iota$ 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 $v1_membered : \iota \Rightarrow o$ be given. Let $k45_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k31_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k30_valued_1 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v7_membered : \iota \Rightarrow o$ be given. Let $k1_series_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_csspace : \iota \Rightarrow o$ be given. Let $l1_clvect_1 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((v1_funct_1 X2) \wedge \\ & ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))))) \wedge ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X0 X1) \wedge (m1_subset_1 \\ & X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow ((r2_funct_2 X0 X1 X2 \\ & X3) \Leftrightarrow (X2 = X3)) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. ((v1_membered \\ & X1) \wedge ((v1_membered X2) \wedge (((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))) \wedge ((v1_funct_1 X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X2))))))) \Rightarrow (k46_valued_1 X0 X1 X2 X3 X4 = k45_valued_1 \\ & X3 X4) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_membered\ X1)\wedge((v1_funct_1\ X2)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1))))\Rightarrow(k31_valued_1\ X0\ X1\ X2 = k30_valued_1\ X2)) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v1_xboole_0\ X0)\wedge((v1_membered\ X0)\wedge(v7_membered\ X0)))\wedge(((v1_funct_1\ X1)\wedge((v1_funct_2\ X1\ k5_numbers\ X0)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ k5_numbers\ X0))))\wedge((v1_funct_1\ X2)\wedge((v1_funct_2\ X2\ k5_numbers\ X0)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ k5_numbers\ X0))))))\Rightarrow(k1_series_1\ X0\ X1\ X2 = k1_valued_1\ X1\ X2)) \quad (4)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ (u1_struct_0\ k18_csspace))\Rightarrow((k4_algstr_0\ k18_csspace\ X0 = k31_valued_1\ k5_numbers\ k2_numbers\ (k2_csspace\ X0))\wedge(r2_funct_2\ k5_numbers\ k2_numbers\ (k2_csspace\ (k4_algstr_0\ k18_csspace\ X0))\ (k31_valued_1\ k5_numbers\ k2_numbers\ (k2_csspace\ X0)))) \quad (5)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ (u1_struct_0\ k18_csspace))\Rightarrow(\forall X1.(m1_subset_1\ X1\ (u1_struct_0\ k18_csspace))\Rightarrow(k1_algstr_0\ k18_csspace\ X0\ X1 = k1_series_1\ k2_numbers\ (k2_csspace\ X0)\ (k2_csspace\ X1))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v1_xboole_0\ X1)\wedge(v1_membered\ X1))\wedge((v1_funct_1\ X2)\wedge((v1_funct_2\ X2\ X0\ X1)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1))))))\Rightarrow((v1_funct_1\ (k30_valued_1\ X2))\wedge(v1_partfun1\ (k30_valued_1\ X2)\ X0)) \quad (7)$$

Assume the following.

$$v7_membered\ k2_numbers \quad (8)$$

Assume the following.

$$\neg v1_xboole_0\ k2_numbers \quad (9)$$

Assume the following.

$$v1_membered\ k2_numbers \quad (10)$$

Assume the following.

$$\forall X0.(l1_csspace\ X0)\Rightarrow(l1_clvect_1\ X0) \quad (11)$$

Assume the following.

$$\forall X0.(l1_clvect_1 X0) \Rightarrow (l2_algstr_0 X0) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((l2_algstr_0 X0) \wedge (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (m1_subset_1 (k4_algstr_0 X0 X1) (u1_struct_0 X0)) \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((v1_membered X1) \wedge ((v1_funct_1 \\ X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow ((v1_funct_1 \\ (k31_valued_1 X0 X1 X2)) \wedge (m1_subset_1 (k31_valued_1 X0 X1 X2) (\\ k1_zfmisc_1 (k2_zfmisc_1 X0 k2_numbers)))) \quad (14) \end{aligned}$$

Assume the following.

$$\forall X0.(v1_funct_1 (k2_csspace X0)) \wedge ((v1_funct_2 (k2_csspace X0) k5_numbers k2_numbers) \wedge (m1_subset_1 (k2_csspace X0) (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k2_numbers)))) \quad (15)$$

Assume the following.

$$(\neg v2_struct_0 k18_csspace) \wedge (l1_csspace k18_csspace) \quad (16)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_valued_0 \\ X1)))) \Rightarrow (k45_valued_1 X0 X1 = k1_valued_1 X0 (k30_valued_1 X1))) \quad (17) \end{aligned}$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k5_algstr_0 X0 X1 X2 = k1_algstr_0 X0 X1 (k4_algstr_0 X0 X2)))) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow ((v1_partfun1 X2 X0) \Rightarrow (v1_funct_2 X2 X0 X1)) \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.(v1_membered X1) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_valued_0 X2)) \quad (21)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 (u1_struct_0 k18_csspace)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 k18_csspace)) \Rightarrow (k5_algstr_0 k18_csspace \\ & X0 X1 = k46_valued_1 k5_numbers k2_numbers k2_numbers (k2_csspace \\ & X0) (k2_csspace X1))) \end{aligned}$$