

t1_csspace2
(TMcmNQFgfznB24brGiHZqCGF5iUazGbScsh)

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Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k18_csspace : \iota$ be given. Let $k11_csspace : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k2_numbers : \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_series_1 : \iota \Rightarrow o$ be given. Let $k20_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k55_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_csspace : \iota \Rightarrow \iota$ be given. Let $v2_comseq_3 : \iota \Rightarrow o$ be given. Let $k19_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_comseq_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k6_csspace : \iota$ be given. Let $k1_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_series_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k1_clvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k25_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k31_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k46_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_csspace : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_comseq_3 : \iota \Rightarrow \iota$ be given. Let $g1_csspace : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $k10_csspace : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_csspace : \iota$ be given. Let $k8_csspace : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_csspace : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k17_csspace : \iota$ be given. Let $v1_csspace : \iota \Rightarrow o$ 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 $v1_clvect_1 : \iota \Rightarrow o$ 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 $l1_clvect_1 : \iota \Rightarrow o$ be given. Let $l1_csspace : \iota \Rightarrow o$ be given. Let $u2_struct_0 : \iota \Rightarrow \iota$ be given. Let $u1_algstr_0 : \iota \Rightarrow \iota$ be given. Let $u1_clvect_1 : \iota \Rightarrow \iota$ be given. Let $u1_csspace : \iota \Rightarrow \iota$ be given. As-

sume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 (u1_struct_0 k18_csspace)) \Leftrightarrow & (((v1_funct_1 \\ X0) \wedge ((v1_funct_2 X0 k5_numbers k2_numbers) \wedge (m1_subset_1 X0 (\\ k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k2_numbers)))))) \wedge (v1_series_1 \\ (k20_valued_1 k5_numbers k1_numbers k1_numbers (k55_valued_1 \\ k5_numbers k2_numbers (k2_csspace X0)) (k55_valued_1 k5_numbers \\ k2_numbers (k2_csspace X0)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 (u1_struct_0 k18_csspace)) \Leftrightarrow & (((v1_funct_1 \\ X0) \wedge ((v1_funct_2 X0 k5_numbers k2_numbers) \wedge (m1_subset_1 X0 (\\ k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k2_numbers)))))) \wedge (v2_comseq_3 \\ (k19_valued_1 k5_numbers k2_numbers k2_numbers (k2_csspace X0) \\ (k2_comseq_2 k5_numbers (k2_csspace X0)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 (u1_struct_0 k18_csspace)) \Rightarrow & (\forall X1. \\ (m1_subset_1 X1 (u1_struct_0 k18_csspace)) \Rightarrow & (k12_csspace k18_csspace \\ X0 X1 = k11_comseq_3 (k19_valued_1 k5_numbers k2_numbers k2_numbers \\ (k2_csspace X0) (k2_comseq_2 k5_numbers (k2_csspace X1)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 (u1_struct_0 k18_csspace)) \Rightarrow & (\forall X1. \\ (m1_subset_1 X1 (u1_struct_0 k18_csspace)) \Rightarrow & (v1_series_1 (k20_valued_1 \\ k5_numbers k1_numbers k1_numbers (k55_valued_1 k5_numbers k2_numbers \\ (k2_csspace X0)) (k55_valued_1 k5_numbers k2_numbers (k2_csspace \\ X1)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 (u1_struct_0 k18_csspace)) \Rightarrow & (\forall X1. \\ (m1_subset_1 X1 (u1_struct_0 k18_csspace)) \Rightarrow & (k5_algstr_0 k18_csspace \\ X0 X1 = k46_valued_1 k5_numbers k2_numbers k2_numbers (k2_csspace \\ X0) (k2_csspace X1))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 (u1_struct_0 k18_csspace)) \Rightarrow & ((k4_algstr_0 \\ k18_csspace X0 = k31_valued_1 k5_numbers k2_numbers (k2_csspace \\ X0)) \wedge (r2_funct_2 k5_numbers k2_numbers (k2_csspace (k4_algstr_0 \\ k18_csspace X0)) (k31_valued_1 k5_numbers k2_numbers (k2_csspace \\ X0)))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.(v1_xmplx_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 k18_csspace)) \Rightarrow (k1_clvect_1 k18_csspace X1 X0 = k25_valued_1 k5_numbers k2_numbers (k2_csspace X1) X0)) \quad (7)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (u1_struct_0 k18_csspace)) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 k18_csspace)) \Rightarrow (k1_algstr_0 k18_csspace X0 X1 = k1_series_1 k2_numbers (k2_csspace X0) (k2_csspace X1))) \quad (8)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (u1_struct_0 k18_csspace)) \Rightarrow (X0 = k2_csspace X0) \quad (9)$$

Assume the following.

$$k4_struct_0 k18_csspace = k6_csspace \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((m1_subset_1 X1 X0) \wedge (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0)))) \wedge (((v1_funct_1 X3) \wedge ((v1_funct_2 X3 (k2_zfmisc_1 k2_numbers X0) X0) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 k2_numbers X0) X0)))) \wedge ((v1_funct_1 X4) \wedge ((v1_funct_2 X4 (k2_zfmisc_1 X0 X0) k2_numbers) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) k2_numbers)))))))))) \Rightarrow (\forall X5.\forall X6. \\ & \forall X7.\forall X8.\forall X9.(g1_csspace X0 X1 X2 X3 X4 = g1_csspace X5 X6 X7 X8 X9) \Rightarrow ((X0 = X5) \wedge ((X1 = X6) \wedge ((X2 = X7) \wedge ((X3 = X8) \wedge (X4 = X9)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & (\neg v2_struct_0 (g1_csspace k11_csspace (k10_csspace k7_csspace k11_csspace) (k8_csspace k7_csspace k11_csspace) (k9_csspace k7_csspace k11_csspace) k17_csspace)) \wedge (v1_csspace (g1_csspace k11_csspace (k10_csspace k7_csspace k11_csspace) (k8_csspace k7_csspace k11_csspace) (k9_csspace k7_csspace k11_csspace) k17_csspace)) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & (\neg v2_struct_0 k7_csspace) \wedge ((v13_algstr_0 k7_csspace) \wedge ((v2_rlvect_1 k7_csspace) \wedge ((v3_rlvect_1 k7_csspace) \wedge ((v4_rlvect_1 k7_csspace) \wedge ((v1_clvect_1 k7_csspace) \wedge ((v2_clvect_1 k7_csspace) \wedge ((v3_clvect_1 k7_csspace) \wedge ((v4_clvect_1 k7_csspace) \wedge (v5_clvect_1 k7_csspace)))))))))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge((v13_algstr_0 X0)\wedge \\ & ((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge((v2_clvect_1 \\ & X0)\wedge((v3_clvect_1 X0)\wedge((v4_clvect_1 X0)\wedge((v5_clvect_1 X0)\wedge \\ & (l1_clvect_1 X0))))))))))\wedge(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ & X0))))\Rightarrow((v1_funct_1 (k9_csspace X0 X1))\wedge((v1_funct_2 (k9_csspace \\ & X0 X1) (k2_zfmisc_1 k2_numbers X1) X1)\wedge(m1_subset_1 (k9_csspace \\ & X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 k2_numbers X1) X1)))))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge((v13_algstr_0 X0)\wedge \\ & ((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge((v2_clvect_1 \\ & X0)\wedge((v3_clvect_1 X0)\wedge((v4_clvect_1 X0)\wedge((v5_clvect_1 X0)\wedge \\ & (l1_clvect_1 X0))))))))))\wedge(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ & X0))))\Rightarrow((v1_funct_1 (k8_csspace X0 X1))\wedge((v1_funct_2 (k8_csspace \\ & X0 X1) (k2_zfmisc_1 X1 X1) X1)\wedge(m1_subset_1 (k8_csspace X0 X1) (\\ & k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X1 X1) X1)))))) \end{aligned} \quad (15)$$

Assume the following.

$$(\neg v2_struct_0 k7_csspace)\wedge((v1_clvect_1 k7_csspace)\wedge(l1_clvect_1 k7_csspace)) \quad (16)$$

Assume the following.

$$(\neg v2_struct_0 k18_csspace)\wedge(l1_csspace k18_csspace) \quad (17)$$

Assume the following.

$$\begin{aligned} & (v1_funct_1 k17_csspace)\wedge((v1_funct_2 k17_csspace (k2_zfmisc_1 \\ & k11_csspace k11_csspace) k2_numbers)\wedge(m1_subset_1 k17_csspace \\ & (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 k11_csspace k11_csspace) \\ & k2_numbers)))) \end{aligned} \quad (18)$$

Assume the following.

$$m1_subset_1 k11_csspace (k1_zfmisc_1 (u1_struct_0 k7_csspace)) \quad (19)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge((v13_algstr_0 X0)\wedge \\ & ((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge((v2_clvect_1 \\ & X0)\wedge((v3_clvect_1 X0)\wedge((v4_clvect_1 X0)\wedge((v5_clvect_1 X0)\wedge \\ & (l1_clvect_1 X0))))))))))\wedge(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ & X0))))\Rightarrow(m1_subset_1 (k10_csspace X0 X1) X1) \end{aligned} \quad (20)$$

Assume the following.

$$\begin{aligned}
& k18_csspace = g1_csspace \ k11_csspace \ (k10_csspace \ k7_csspace \\
& \ k11_csspace) \ (k8_csspace \ k7_csspace \ k11_csspace) \ (k9_csspace \quad (21) \\
& \ k7_csspace \ k11_csspace) \ k17_csspace
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_csspace \ X0) \Rightarrow ((v1_csspace \ X0) \Rightarrow (X0 = g1_csspace \\
& (u1_struct_0 \ X0) \ (u2_struct_0 \ X0) \ (u1_algstr_0 \ X0) \ (u1_clvect_1 \quad (22) \\
& \ X0) \ (u1_csspace \ X0))
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& (u1_struct_0 \ k18_csspace = k11_csspace) \wedge ((\forall X0.(m1_subset_1 \\
& \ X0 \ (u1_struct_0 \ k18_csspace)) \Leftrightarrow (((v1_funct_1 \ X0) \wedge ((v1_funct_2 \\
& \ X0 \ k5_numbers \ k2_numbers) \wedge (m1_subset_1 \ X0 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \\
& \ k5_numbers \ k2_numbers)))))) \wedge (v1_series_1 \ (k20_valued_1 \ k5_numbers \\
& \ k1_numbers \ k1_numbers \ (k55_valued_1 \ k5_numbers \ k2_numbers \ (k2_csspace \\
& \ X0)) \ (k55_valued_1 \ k5_numbers \ k2_numbers \ (k2_csspace \ X0)))))) \wedge \\
& \ ((\forall X0.(m1_subset_1 \ X0 \ (u1_struct_0 \ k18_csspace)) \Leftrightarrow (((\\
& \ v1_funct_1 \ X0) \wedge ((v1_funct_2 \ X0 \ k5_numbers \ k2_numbers) \wedge (m1_subset_1 \\
& \ X0 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \ k2_numbers)))))) \wedge (v2_comseq_3 \\
& \ (k19_valued_1 \ k5_numbers \ k2_numbers \ k2_numbers \ (k2_csspace \ X0) \\
& \ (k2_comseq_2 \ k5_numbers \ (k2_csspace \ X0)))))) \wedge ((k4_struct_0 \\
& \ k18_csspace = k6_csspace) \wedge ((\forall X0.(m1_subset_1 \ X0 \ (u1_struct_0 \\
& \ k18_csspace)) \Rightarrow (X0 = k2_csspace \ X0)) \wedge ((\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)))))) \wedge ((\forall X0.(v1_xcmplx_0 \\
& \ X0) \Rightarrow (\forall X1.(m1_subset_1 \ X1 \ (u1_struct_0 \ k18_csspace)) \Rightarrow \\
& \ (k1_clvect_1 \ k18_csspace \ X1 \ X0 = k25_valued_1 \ k5_numbers \ k2_numbers \\
& \ (k2_csspace \ X1) \ X0))) \wedge ((\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)))))) \wedge ((\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)))))) \wedge (\forall X0. \\
& \ (m1_subset_1 \ X0 \ (u1_struct_0 \ k18_csspace)) \Rightarrow (\forall X1.(m1_subset_1 \\
& \ X1 \ (u1_struct_0 \ k18_csspace)) \Rightarrow ((v1_series_1 \ (k20_valued_1 \ k5_numbers \\
& \ k1_numbers \ k1_numbers \ (k55_valued_1 \ k5_numbers \ k2_numbers \ (k2_csspace \\
& \ X0)) \ (k55_valued_1 \ k5_numbers \ k2_numbers \ (k2_csspace \ X1)))))) \wedge \\
& \ ((\forall X2.(m1_subset_1 \ X2 \ (u1_struct_0 \ k18_csspace)) \Rightarrow (\forall X3. \\
& \ (m1_subset_1 \ X3 \ (u1_struct_0 \ k18_csspace)) \Rightarrow (k12_csspace \ k18_csspace \\
& \ X2 \ X3 = k11_comseq_3 \ (k19_valued_1 \ k5_numbers \ k2_numbers \ k2_numbers \\
& \ (k2_csspace \ X2) \ (k2_comseq_2 \ k5_numbers \ (k2_csspace \ X3)))))))))
\end{aligned}$$