

t9_clvect_2

(TMM9yW8YmnBbPgbC3qTbJSdVkAv1Vso8gGx)

October 27, 2020

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 $v1_clvect_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $r1_xreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k13_csspace : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_normsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k15_csspace : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k14_csspace : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $l1_clvect_1 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (1)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 \\ & X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\ & ((v2_clvect_1 X0) \wedge ((v3_clvect_1 X0) \wedge ((v4_clvect_1 X0) \wedge ((v5_clvect_1 \\ & X0) \wedge ((v2_csspace X0) \wedge (l1_csspace X0)))))))))) \wedge ((m1_subset_1 \\ & X1 (u1_struct_0 X0) \wedge (m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (k15_csspace \\ & X0 X1 X2 = k14_csspace X0 X1 X2) \end{aligned} \quad (3)$$

Assume the following.

$$(\neg v1_xboole_0 \ k4_ordinal1) \wedge (v3_ordinal1 \ k4_ordinal1) \quad (4)$$

Assume the following.

$$\neg v1_xboole_0 \ k1_numbers \quad (5)$$

Assume the following.

$$\forall X0. (l2_algstr_0 \ X0) \Rightarrow ((l2_struct_0 \ X0) \wedge (l1_algstr_0 \ X0)) \quad (6)$$

Assume the following.

$$\forall X0. (l1_csspace \ X0) \Rightarrow (l1_clvect_1 \ X0) \quad (7)$$

Assume the following.

$$\forall X0. (l1_clvect_1 \ X0) \Rightarrow (l2_algstr_0 \ X0) \quad (8)$$

Assume the following.

$$\forall X0. (l1_algstr_0 \ X0) \Rightarrow (l1_struct_0 \ X0) \quad (9)$$

Assume the following.

$$m1_subset_1 \ k5_numbers \ (k1_zfmisc_1 \ k1_numbers) \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 \ X0) \wedge (l1_struct_0 \\ & X0)) \wedge (((v1_funct_1 \ X1) \wedge ((v1_funct_2 \ X1 \ k5_numbers \ (u1_struct_0 \\ & X0)) \wedge (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \ (u1_struct_0 \\ & X0)))))) \wedge (m1_subset_1 \ X2 \ k5_numbers))) \Rightarrow (m1_subset_1 \ (k1_normsp_1 \\ & X0 \ X1 \ X2) \ (u1_struct_0 \ X0)) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. (((\neg v2_struct_0 \ X0) \wedge ((v13_algstr_0 \ X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 \ X0) \wedge ((v4_rlvect_1 \ X0) \wedge ((v2_clvect_1 \ X0) \wedge \\ & ((v3_clvect_1 \ X0) \wedge ((v4_clvect_1 \ X0) \wedge ((v5_clvect_1 \ X0) \wedge ((v2_csspace \\ & X0) \wedge (l1_csspace \ X0)))))))))) \Rightarrow (\forall X1. ((v1_funct_1 \ X1) \wedge \\ & ((v1_funct_2 \ X1 \ k5_numbers \ (u1_struct_0 \ X0)) \wedge (m1_subset_1 \ X1 \\ & (k1_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \ (u1_struct_0 \ X0)))))) \Rightarrow \\ & ((v1_clvect_2 \ X1 \ X0) \Leftrightarrow (\exists X2. (m1_subset_1 \ X2 \ (u1_struct_0 \\ & X0)) \wedge (\forall X3. (m1_subset_1 \ X3 \ k1_numbers) \Rightarrow (\neg (\neg r1_xxreal_0 \\ & X3 \ k6_numbers) \wedge (\forall X4. (m2_subset_1 \ X4 \ k1_numbers \ k5_numbers) \Rightarrow \\ & (\exists X5. (m2_subset_1 \ X5 \ k1_numbers \ k5_numbers) \wedge ((r1_xxreal_0 \\ & X4 \ X5) \wedge (r1_xxreal_0 \ X3 \ (k15_csspace \ X0 \ (k1_normsp_1 \ X0 \ X1 \ X5) \ X2)))))))))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (v13_algstr_0 X0) \wedge (v2_rlvect_1 \\
& X0) \wedge (v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge (v2_clvect_1 X0) \wedge \\
& ((v3_clvect_1 X0) \wedge ((v4_clvect_1 X0) \wedge ((v5_clvect_1 X0) \wedge ((v2_csspace \\
& X0) \wedge (l1_csspace X0)))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (\\
& u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow \\
& (k14_csspace X0 X1 X2 = k13_csspace X0 (k5_algstr_0 X0 X1 X2)))) \\
& \tag{13}
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (v13_algstr_0 X0) \wedge (v2_rlvect_1 \\
& X0) \wedge (v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge (v2_clvect_1 X0) \wedge \\
& ((v3_clvect_1 X0) \wedge ((v4_clvect_1 X0) \wedge ((v5_clvect_1 X0) \wedge ((v2_csspace \\
& X0) \wedge (l1_csspace X0)))))) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge \\
& ((v1_funct_2 X1 k5_numbers (u1_struct_0 X0)) \wedge (m1_subset_1 X1 \\
& (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 X0)))))) \Rightarrow \\
& ((v1_clvect_2 X1 X0) \Leftrightarrow (\exists X2.(m1_subset_1 X2 (u1_struct_0 \\
& X0)) \wedge (\forall X3.(m1_subset_1 X3 k1_numbers) \Rightarrow (\neg(\neg r1_xreal_0 \\
& X3 k6_numbers) \wedge (\forall X4.(m2_subset_1 X4 k1_numbers k5_numbers) \Rightarrow \\
& (\exists X5.(m2_subset_1 X5 k1_numbers k5_numbers) \wedge ((r1_xreal_0 \\
& X4 X5) \wedge (r1_xreal_0 X3 (k13_csspace X0 (k5_algstr_0 X0 (k1_normsp_1 \\
& X0 X1 X5) X2))))))))))
\end{aligned}$$