

t12_clvect_2

(TMXD91uQtRtwQoahmruDg5w8WqBSioRSR6Z)

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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 $v2_clvect_1 : \iota \Rightarrow o$ 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 $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_normsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_clvect_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k15_csspace : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xxreal_0 X2) \Rightarrow (((r1_xxreal_0 X0 X1) \wedge (r1_xxreal_0 X1 X2)) \Rightarrow \\ & (r1_xxreal_0 X0 X2)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v2_clvect_1 X0) \wedge \\ & ((v3_clvect_1 X0) \wedge ((v4_clvect_1 X0) \wedge ((v5_clvect_1 X0) \wedge ((v2_csspace \\ & X0) \wedge (l1_csspace X0)))))))))) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge \\ & ((v1_funct_2 X1 k5_numbers (u1_struct_0 X0)) \wedge (m1_subset_1 X1 \\ & (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 X0)))))) \Rightarrow \\ & (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 k5_numbers (u1_struct_0 \\ & X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\ & X0)))))) \Rightarrow ((v1_clvect_2 X1 X0) \Rightarrow ((\forall X3.(m2_subset_1 X3 k1_numbers \\ & k5_numbers) \Rightarrow (\exists X4.(m2_subset_1 X4 k1_numbers k5_numbers) \wedge \\ & ((r1_xxreal_0 X3 X4) \wedge (k1_normsp_1 X0 X2 X4 \neq k1_normsp_1 X0 X1 X4)))) \vee \\ & (v1_clvect_2 X2 X0)))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 X2 X0 X1)\Leftrightarrow(m1_subset_1 X2 X1)) \quad (3)$$

Assume the following.

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

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1)\wedge(v3_ordinal1 k4_ordinal1) \quad (5)$$

Assume the following.

$$v3_membered k1_numbers \quad (6)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (7)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (8)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge((v13_algstr_0 X0)\wedge \\ &((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge((v2_clvect_1 \\ &X0)\wedge((v3_clvect_1 X0)\wedge((v4_clvect_1 X0)\wedge((v5_clvect_1 X0)\wedge \\ &((v2_csspace X0)\wedge(l1_csspace X0))))))))))\wedge((v1_funct_1 X1)\wedge \\ &((v1_funct_2 X1 k5_numbers (u1_struct_0 X0))\wedge(m1_subset_1 X1 \\ &(k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 X0))))))\Rightarrow \\ &(m1_subset_1 (k1_clvect_2 X0 X1) (u1_struct_0 X0)) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} &\forall X0.((\neg v2_struct_0 X0)\wedge((v13_algstr_0 X0)\wedge((v2_rlvect_1 \\ &X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge((v2_clvect_1 X0)\wedge \\ &((v3_clvect_1 X0)\wedge((v4_clvect_1 X0)\wedge((v5_clvect_1 X0)\wedge((v2_csspace \\ &X0)\wedge(l1_csspace X0))))))))))\Rightarrow(\forall X1.((v1_funct_1 X1)\wedge \\ &((v1_funct_2 X1 k5_numbers (u1_struct_0 X0))\wedge(m1_subset_1 X1 \\ &(k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 X0))))))\Rightarrow \\ &((v1_clvect_2 X1 X0)\Rightarrow(\forall X2.(m1_subset_1 X2 (u1_struct_0 \\ &X0))\Rightarrow((X2 = k1_clvect_2 X0 X1)\Leftrightarrow(\forall X3.(m1_subset_1 X3 k1_numbers)\Rightarrow \\ &(\neg(\neg r1_xreal_0 X3 k6_numbers)\wedge(\forall X4.(m2_subset_1 X4 k1_numbers \\ &k5_numbers)\Rightarrow(\exists X5.(m2_subset_1 X5 k1_numbers k5_numbers)\wedge \\ &((r1_xreal_0 X4 X5)\wedge(r1_xreal_0 X3 (k15_csspace X0 (k1_normsp_1 \\ &X0 X1 X5) X2)))))))))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0)\wedge(v1_xxreal_0 X1))\Rightarrow((r1_xxreal_0 X0 X1)\vee(r1_xxreal_0 X1 X0)) \quad (11)$$

Assume the following.

$$\forall X0.(v3_membered X0)\Rightarrow(v2_membered X0) \quad (12)$$

Assume the following.

$$\forall X0.(v2_membered X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(v2_membered X1)) \quad (13)$$

Assume the following.

$$\forall X0.(v2_membered X0)\Rightarrow(\forall X1.(m1_subset_1 X1 X0)\Rightarrow (v1_xxreal_0 X1)) \quad (14)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge((v13_algstr_0 X0)\wedge((v2_rlvect_1 \\ & X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge((v2_clvect_1 X0)\wedge \\ & ((v3_clvect_1 X0)\wedge((v4_clvect_1 X0)\wedge((v5_clvect_1 X0)\wedge((v2_csspace \\ & X0)\wedge(l1_csspace X0))))))))))\Rightarrow(\forall X1.((v1_funct_1 X1)\wedge \\ & ((v1_funct_2 X1 k5_numbers (u1_struct_0 X0))\wedge(m1_subset_1 X1 \\ & (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 X0))))))\Rightarrow \\ & (\forall X2.((v1_funct_1 X2)\wedge((v1_funct_2 X2 k5_numbers (u1_struct_0 \\ & X0))\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\ & X0))))))\Rightarrow((v1_clvect_2 X1 X0)\Rightarrow((\forall X3.(m2_subset_1 X3 k1_numbers \\ & k5_numbers)\Rightarrow(\exists X4.(m2_subset_1 X4 k1_numbers k5_numbers)\wedge \\ & ((r1_xxreal_0 X3 X4)\wedge(k1_normsp_1 X0 X2 X4\neq k1_normsp_1 X0 X1 X4))))\vee \\ & (k1_clvect_2 X0 X1 = k1_clvect_2 X0 X2)))))) \end{aligned}$$