

t10_normsp_1 (TM-
cDJT7eY8h3vQ9BjZkWySuxyofaWnwDEJC)

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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 $v5_rlvect_1 : \iota \Rightarrow o$ be given. Let $v6_rlvect_1 : \iota \Rightarrow o$ be given. Let $v7_rlvect_1 : \iota \Rightarrow o$ be given. Let $v8_rlvect_1 : \iota \Rightarrow o$ be given. Let $v3_normsp_0 : \iota \Rightarrow o$ be given. Let $v4_normsp_0 : \iota \Rightarrow o$ be given. Let $v2_normsp_1 : \iota \Rightarrow o$ be given. Let $l1_normsp_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_normsp_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $k1_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $k3_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $u2_struct_0 : \iota \Rightarrow \iota$ be given. Let $l2_normsp_0 : \iota \Rightarrow o$ be given. Let $l1_normsp_0 : \iota \Rightarrow o$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $k1_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k18_complex1 : \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_rlvect_1 \\ & X0) \wedge ((v4_rlvect_1 X0) \wedge (l2_algstr_0 X0)))) \Rightarrow (\forall X1. (m1_subset_1 \\ & X1 (u1_struct_0 X0)) \Rightarrow ((k1_algstr_0 X0 X1 (k4_algstr_0 X0 X1) = k4_struct_0 \\ & X0) \wedge (k1_algstr_0 X0 (k4_algstr_0 X0 X1) X1 = k4_struct_0 X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_rlvect_1 \\ & X0) \wedge ((v4_rlvect_1 X0) \wedge (l2_algstr_0 X0)))) \Rightarrow (\forall X1. (m1_subset_1 \\ & X1 (u1_struct_0 X0)) \Rightarrow ((k1_algstr_0 X0 X1 (k4_struct_0 X0) = X1) \wedge \\ & (k1_algstr_0 X0 (k4_struct_0 X0) X1 = X1))) \end{aligned} \quad (2)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((v2_rlvect_1 X0)\wedge(l1_algstr_0 \\ X0))\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 \\ X0))))\Rightarrow(k3_rlvect_1 X0 X1 X2 = k1_algstr_0 X0 X1 X2) \end{aligned} \quad (4)$$

Assume the following.

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

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge \\ (m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\exists X2.m2_subset_1 \\ X2 X0 X1) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(l2_struct_0 X0)\Rightarrow(m1_subset_1 (u2_struct_0 X0) (u1_struct_0 X0)) \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge \\ (m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 \\ X2 X0 X1)\Rightarrow(m1_subset_1 X2 X0)) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.(l2_normsp_0 X0)\Rightarrow((l1_normsp_0 X0)\wedge(l2_struct_0 X0)) \quad (10)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0)\Rightarrow((l2_struct_0 X0)\wedge(l1_algstr_0 X0)) \quad (11)$$

Assume the following.

$$\forall X0.(l1_rlvect_1 X0)\Rightarrow(l2_algstr_0 X0) \quad (12)$$

Assume the following.

$$\forall X0.(l1_normsp_1 X0)\Rightarrow((l1_rlvect_1 X0)\wedge(l2_normsp_0 X0)) \quad (13)$$

Assume the following.

$$m1_subset_1 \ k5_numbers \ (k1_zfmisc_1 \ k1_numbers) \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((l2_algstr_0 \ X0)\wedge((m1_subset_1 \\ X1 \ (u1_struct_0 \ X0))\wedge(m1_subset_1 \ X2 \ (u1_struct_0 \ X0))))\Rightarrow(m1_subset_1 \\ (k5_algstr_0 \ X0 \ X1 \ X2) \ (u1_struct_0 \ X0)) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.((l2_algstr_0 \ X0)\wedge(m1_subset_1 \ X1 \ (u1_struct_0 \ X0)))\Rightarrow(m1_subset_1 \ (k4_algstr_0 \ X0 \ X1) \ (u1_struct_0 \ X0)) \quad (16)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2_struct_0 \ X0)\wedge(l1_normsp_0 \ X0))\wedge \\ (m1_subset_1 \ X1 \ (u1_struct_0 \ X0)))\Rightarrow(m1_subset_1 \ (k1_normsp_0 \\ X0 \ X1) \ k1_numbers) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((l1_algstr_0 \ X0)\wedge((m1_subset_1 \\ X1 \ (u1_struct_0 \ X0))\wedge(m1_subset_1 \ X2 \ (u1_struct_0 \ X0))))\Rightarrow(m1_subset_1 \\ (k1_algstr_0 \ X0 \ X1 \ X2) \ (u1_struct_0 \ X0)) \end{aligned} \quad (18)$$

Assume the following.

$$\forall X0.(l2_struct_0 \ X0)\Rightarrow(k4_struct_0 \ X0 = u2_struct_0 \ X0) \quad (19)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_algstr_0 \ X0)\Rightarrow((v3_rlvect_1 \ X0)\Leftrightarrow(\forall X1.(\\ m1_subset_1 \ X1 \ (u1_struct_0 \ X0))\Rightarrow(\forall X2.(m1_subset_1 \ X2 \\ (u1_struct_0 \ X0))\Rightarrow(\forall X3.(m1_subset_1 \ X3 \ (u1_struct_0 \ X0))\Rightarrow \\ (k1_algstr_0 \ X0 \ (k1_algstr_0 \ X0 \ X1 \ X2) \ X3 = k1_algstr_0 \ X0 \ X1 \ (k1_algstr_0 \\ X0 \ X2 \ X3)))))) \end{aligned} \quad (20)$$

Assume the following.

$$\begin{aligned} \forall X0.(((\neg v2_struct_0 \ X0)\wedge(l1_normsp_1 \ X0))\Rightarrow((v2_normsp_1 \\ X0)\Leftrightarrow(\forall X1.(m1_subset_1 \ X1 \ (u1_struct_0 \ X0))\Rightarrow(\forall X2. \\ (m1_subset_1 \ X2 \ (u1_struct_0 \ X0))\Rightarrow(\forall X3.(m1_subset_1 \ X3 \\ k1_numbers)\Rightarrow((k1_normsp_0 \ X0 \ (k1_rlvect_1 \ X0 \ X1 \ X3) = k8_real_1 \\ (k18_complex1 \ X3) \ (k1_normsp_0 \ X0 \ X1))\wedge(r1_xxreal_0 \ (k1_normsp_0 \\ X0 \ (k1_algstr_0 \ X0 \ X1 \ X2)) \ (k7_real_1 \ (k1_normsp_0 \ X0 \ X1) \ (k1_normsp_0 \\ X0 \ X2)))))))))) \end{aligned} \quad (21)$$

Assume the following.

$$\begin{aligned} \forall X0.(l2_algstr_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k5_algstr_0 \\ X0 X1 X2 = k1_algstr_0 X0 X1 (k4_algstr_0 X0 X2)))) \end{aligned} \quad (22)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((m1_subset_1 X0 k1_numbers) \wedge (v1_xreal_0 \\ X1)) \Rightarrow (k7_real_1 X0 X1 = k7_real_1 X1 X0) \end{aligned} \quad (23)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((v2_rlvect_1 X0) \wedge (l1_algstr_0 \\ X0)) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 \\ X0)))) \Rightarrow (k3_rlvect_1 X0 X1 X2 = k3_rlvect_1 X0 X2 X1) \end{aligned} \quad (24)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xreal_0 X0) \quad (25)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v3_normsp_0 \\ X0) \wedge ((v4_normsp_0 X0) \wedge ((v2_normsp_1 X0) \wedge (l1_normsp_1 X0)))))))))) \Rightarrow \\ (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 \\ X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ X0)) \Rightarrow (r1_xxreal_0 (k1_normsp_0 X0 (k5_algstr_0 X0 X1 X2)) (k7_real_1 \\ (k1_normsp_0 X0 (k5_algstr_0 X0 X1 X3)) (k1_normsp_0 X0 (k5_algstr_0 \\ X0 X3 X2))))))) \end{aligned}$$