

t7_vectmetr
(TMFJHKPfp6SwV2jjpdKP9DzaJ6oc9sZXKom)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v9_metric_1 : \iota \Rightarrow o$ 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 $v6_vectmetr : \iota \Rightarrow o$ be given. Let $l1_vectmetr : \iota \Rightarrow o$ 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 $k3_vectmetr : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $l1_metric_1 : \iota \Rightarrow o$ be given. Let $k2_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0. (l1_metric_1 X0) \Rightarrow (&(\forall X1. (m1_subset_1 X1 (u1_struct_0 \\ &X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\ &(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (r1_xxreal_0 (k2_metric_1 \\ &X0 X1 X3) (k7_real_1 (k2_metric_1 X0 X1 X2) (k2_metric_1 X0 X2 X3)))))) \Leftrightarrow \\ &(v9_metric_1 X0)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (&((v2_rlvect_1 X0) \wedge (l1_algstr_0 \\ &X0)) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 \\ &X0)))) \Rightarrow (k3_rlvect_1 X0 X1 X2 = k1_algstr_0 X0 X1 X2) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. (l2_algstr_0 X0) \Rightarrow ((l2_struct_0 X0) \wedge (l1_algstr_0 X0)) \quad (4)$$

Assume the following.

$$\forall X0.(l1_vectmetr\ X0)\Rightarrow((l1_rlvect_1\ X0)\wedge(l1_metric_1\ X0)) \quad (5)$$

Assume the following.

$$\forall X0.(l1_rlvect_1\ X0)\Rightarrow(l2_algstr_0\ X0) \quad (6)$$

Assume the following.

$$\forall X0.(l2_struct_0\ X0)\Rightarrow(m1_subset_1\ (k4_struct_0\ X0)\ (u1_struct_0\ X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((l1_algstr_0\ X0)\wedge((m1_subset_1\ X1\ (u1_struct_0\ X0))\wedge(m1_subset_1\ X2\ (u1_struct_0\ X0))))\Rightarrow(m1_subset_1\ (k1_algstr_0\ X0\ X1\ X2)\ (u1_struct_0\ X0)) \quad (8)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0\ X0)\wedge(l1_vectmetr\ X0))\Rightarrow(\forall X1.\ (m1_subset_1\ X1\ (u1_struct_0\ X0))\Rightarrow(k3_vectmetr\ X0\ X1 = k2_metric_1\ X0\ (k4_struct_0\ X0\ X1))) \quad (9)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0\ X0)\wedge(l1_vectmetr\ X0))\Rightarrow((v6_vectmetr\ X0)\Leftrightarrow(\forall X1.(m1_subset_1\ X1\ (u1_struct_0\ X0))\Rightarrow(\forall X2.\ (m1_subset_1\ X2\ (u1_struct_0\ X0))\Rightarrow(\forall X3.(m1_subset_1\ X3\ (u1_struct_0\ X0))\Rightarrow(k2_metric_1\ X0\ X3\ X2 = k2_metric_1\ X0\ (k1_algstr_0\ X0\ X3\ X1)\ (k1_algstr_0\ X0\ X2\ X1)))))) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v2_rlvect_1\ X0)\wedge(l1_algstr_0\ X0))\wedge((m1_subset_1\ X1\ (u1_struct_0\ X0))\wedge(m1_subset_1\ X2\ (u1_struct_0\ X0))))\Rightarrow(k3_rlvect_1\ X0\ X1\ X2 = k3_rlvect_1\ X0\ X2\ X1) \quad (11)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0\ X0)\wedge((v13_algstr_0\ X0)\wedge((v9_metric_1\ X0)\wedge((v2_rlvect_1\ X0)\wedge((v3_rlvect_1\ X0)\wedge((v4_rlvect_1\ X0)\wedge((v6_vectmetr\ X0)\wedge(l1_vectmetr\ X0))))))))\Rightarrow(\forall X1.(m1_subset_1\ X1\ (u1_struct_0\ X0))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (u1_struct_0\ X0))\Rightarrow(r1_xreal_0\ (k3_vectmetr\ X0\ (k3_rlvect_1\ X0\ X1\ X2))\ (k7_real_1\ (k3_vectmetr\ X0\ X1)\ (k3_vectmetr\ X0\ X2))))))$$