

t19_rlvect_4

(TMXsgw25JqgSoFvhTb13aDpTApkRifU4f3r)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. 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 $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_rlvect_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k1_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k8_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (\forall X1.(v1_xcmplx_0 X1) \Rightarrow (\neg (k3_xcmplx_0 X0 X1 = k6_numbers) \wedge ((X0 \neq k6_numbers) \wedge (X1 \neq k6_numbers)))) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 X0)))))))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (((X1 \neq X2) \wedge (v1_rlvect_3 (k7_domain_1 (u1_struct_0 X0) X1 X2) X0)) \Leftrightarrow (\forall X3.(m1_subset_1 X3 k1_numbers) \Rightarrow (\forall X4.(m1_subset_1 X4 k1_numbers) \Rightarrow ((k3_rlvect_1 X0 (k1_rlvect_1 X0 X1 X3) (k1_rlvect_1 X0 X2 X4) = k4_struct_0 X0) \Rightarrow ((X3 = k6_numbers) \wedge (X4 = k6_numbers)))))))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k1_numbers) \wedge (v1_xreal_0 X1)) \Rightarrow (k8_real_1 X0 X1 = k3_xcmplx_0 X0 X1) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k1_numbers) \wedge (v1_xreal_0 X1)) \Rightarrow (m1_subset_1 (k8_real_1 X0 X1) k1_numbers) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge(l1_rlvect_1 X0))\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(v1_xreal_0 X2)))\Rightarrow(m1_subset_1 (k1_rlvect_1 X0 X1 X2) (u1_struct_0 X0)) \quad (5)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l1_rlvect_1 X0))\Rightarrow((v7_rlvect_1 X0)\Leftrightarrow(\forall X1.(v1_xreal_0 X1)\Rightarrow(\forall X2.(v1_xreal_0 X2)\Rightarrow(\forall X3.(m1_subset_1 X3 (u1_struct_0 X0))\Rightarrow(k1_rlvect_1 X0 X3 (k3_xcmplx_0 X1 X2) = k1_rlvect_1 X0 (k1_rlvect_1 X0 X3 X2) X1)))))) \quad (6)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(v1_xcmplx_0 X0) \quad (7)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(v1_xreal_0 X0) \quad (8)$$

Theorem 1

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(\forall X1.(((\neg v2_struct_0 X1)\wedge((v13_algstr_0 X1)\wedge((v2_rlvect_1 X1)\wedge((v3_rlvect_1 X1)\wedge((v4_rlvect_1 X1)\wedge((v5_rlvect_1 X1)\wedge((v6_rlvect_1 X1)\wedge((v7_rlvect_1 X1)\wedge((v8_rlvect_1 X1)\wedge(l1_rlvect_1 X1))))))))))\Rightarrow(\forall X2.(m1_subset_1 X2 (u1_struct_0 X1))\Rightarrow(\forall X3.(m1_subset_1 X3 (u1_struct_0 X1))\Rightarrow((v1_rlvect_3 (k7_domain_1 (u1_struct_0 X1) X2 X3) X1)\Rightarrow((X2 = X3)\vee((X0 = k6_numbers)\vee(v1_rlvect_3 (k7_domain_1 (u1_struct_0 X1) X2 (k1_rlvect_1 X1 X3 X0)) X1))))))))))$$