

t40_euclid

(TMbesKKzmmnhsp5mHoQZuVtR5jTnnuZ8LHn)

October 27, 2020

Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k15_euclid : \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k4_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_binop_2 : \iota \Rightarrow \iota$ 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 $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $v5_rltopsp1 : \iota \Rightarrow o$ be given. Let $l1_rltopsp1 : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge (\\ & (v13_algstr_0 X1) \wedge (v2_rlvect_1 X1) \wedge (v3_rlvect_1 X1) \wedge (v4_rlvect_1 \\ & X1) \wedge (v5_rlvect_1 X1) \wedge (v6_rlvect_1 X1) \wedge (v7_rlvect_1 X1) \wedge \\ & ((v8_rlvect_1 X1) \wedge (l1_rlvect_1 X1)))))) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X1)) \Rightarrow (k1_rlvect_1 X1 (k4_algstr_0 X1 X2) X0 = k4_algstr_0 \\ & X1 (k1_rlvect_1 X1 X2 X0))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge (\\ & (v13_algstr_0 X1) \wedge (v2_rlvect_1 X1) \wedge (v3_rlvect_1 X1) \wedge (v4_rlvect_1 \\ & X1) \wedge (v5_rlvect_1 X1) \wedge (v6_rlvect_1 X1) \wedge (v7_rlvect_1 X1) \wedge \\ & ((v8_rlvect_1 X1) \wedge (l1_rlvect_1 X1)))))) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X1)) \Rightarrow (k1_rlvect_1 X1 (k4_algstr_0 X1 X2) X0 = k1_rlvect_1 \\ & X1 X2 (k4_xcmplx_0 X0))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (k7_binop_2 X0 = k4_xcmplx_0 X0) \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0) \Rightarrow & ((v2_pre_topc\ (k15_euclid\ X0)) \wedge \\ & ((v13_algstr_0\ (k15_euclid\ X0)) \wedge ((v2_rlvect_1\ (k15_euclid\ X0)) \wedge \\ & ((v3_rlvect_1\ (k15_euclid\ X0)) \wedge ((v4_rlvect_1\ (k15_euclid\ X0)) \wedge \\ & ((v5_rlvect_1\ (k15_euclid\ X0)) \wedge ((v6_rlvect_1\ (k15_euclid\ X0)) \wedge \\ & ((v7_rlvect_1\ (k15_euclid\ X0)) \wedge ((v8_rlvect_1\ (k15_euclid\ X0)) \wedge \\ & (v5_rltopsp1\ (k15_euclid\ X0)))))))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0) \Rightarrow ((-v2_struct_0\ (k15_euclid\ X0)) \wedge (v5_rltopsp1\ (k15_euclid\ X0))) \quad (5)$$

Assume the following.

$$\forall X0.(l1_rltopsp1\ X0) \Rightarrow ((l1_rlvect_1\ X0) \wedge (l1_pre_topc\ X0)) \quad (6)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0) \Rightarrow ((v5_rltopsp1\ (k15_euclid\ X0)) \wedge (l1_rltopsp1\ (k15_euclid\ X0))) \quad (7)$$

Theorem 1

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0) \Rightarrow & (\forall X1.(m1_subset_1\ X1\ (u1_struct_0 \\ & (k15_euclid\ X0))) \Rightarrow (\forall X2.(v1_xreal_0\ X2) \Rightarrow ((k4_algstr_0 \\ & (k15_euclid\ X0)\ (k1_rlvect_1\ (k15_euclid\ X0)\ X1\ X2) = k1_rlvect_1 \\ & (k15_euclid\ X0)\ X1\ (k7_binop_2\ X2)) \wedge (k4_algstr_0\ (k15_euclid \\ & X0)\ (k1_rlvect_1\ (k15_euclid\ X0)\ X1\ X2) = k1_rlvect_1\ (k15_euclid \\ & X0)\ (k4_algstr_0\ (k15_euclid\ X0)\ X1\ X2)))) \end{aligned}$$