

t32_euclid_3 (TMZNz- ZweGFcrC3JeD9DLX2Hz6BpKwCfjV8x)

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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 $np_2 : \iota$ be given. Let $k5_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k32_sin_cos : \iota$ be given. Let $k3_euclid_3 : \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k4_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l1_rltopsp1 : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $v5_rltopsp1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ (k15_euclid X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 (\\ k15_euclid X0))) \Rightarrow ((k4_algstr_0 (k15_euclid X0) (k5_algstr_0 \\ (k15_euclid X0) X1 X2) = k5_algstr_0 (k15_euclid X0) X2 X1) \wedge (k4_algstr_0 \\ (k15_euclid X0) (k5_algstr_0 (k15_euclid X0) X1 X2) = k3_rlvect_1 \\ (k15_euclid X0) (k4_algstr_0 (k15_euclid X0) X1) X2)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ (k15_euclid X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 (\\ k15_euclid X0))) \Rightarrow ((k5_algstr_0 (k15_euclid X0) X1 X2 = k4_struct_0 \\ (k15_euclid X0)) \Rightarrow (X1 = X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\ ((X0 \neq k4_struct_0 (k15_euclid np_2)) \Rightarrow ((\neg r1_xxreal_0 k32_sin_cos \\ (k3_euclid_3 X0)) \Leftrightarrow (r1_xxreal_0 k32_sin_cos (k3_euclid_3 (k4_algstr_0 \\ (k15_euclid np_2) X0)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_2) \wedge (m2_subset_1 \ np_2 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_2 \ k5_numbers) \wedge (m1_subset_1 \ np_2 \ k1_numbers)) \end{aligned} \quad (4)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (5)$$

Assume the following.

$$v6_membered \ k4_ordinal1 \quad (6)$$

Assume the following.

$$\forall X0.(l1_rlvect_1 \ X0) \Rightarrow (l2_algstr_0 \ X0) \quad (7)$$

Assume the following.

$$\forall X0.(l1_rltopsp1 \ X0) \Rightarrow ((l1_rlvect_1 \ X0) \wedge (l1_pre_topc \ X0)) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((l2_algstr_0 \ X0) \wedge ((m1_subset_1 \\ & X1 \ (u1_struct_0 \ X0)) \wedge (m1_subset_1 \ X2 \ (u1_struct_0 \ X0)))) \Rightarrow (m1_subset_1 \\ & (k5_algstr_0 \ X0 \ X1 \ X2) \ (u1_struct_0 \ X0)) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.(v7_ordinal1 \ X0) \Rightarrow ((v5_rltopsp1 \ (k15_euclid \ X0)) \wedge (l1_rltopsp1 \ (k15_euclid \ X0))) \quad (10)$$

Assume the following.

$$\forall X0.(v6_membered \ X0) \Rightarrow (\forall X1.(m1_subset_1 \ X1 \ X0) \Rightarrow (v7_ordinal1 \ X1)) \quad (11)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1 \ X0 \ (u1_struct_0 \ (k15_euclid \ np_2))) \Rightarrow \\ & (\forall X1.(m1_subset_1 \ X1 \ (u1_struct_0 \ (k15_euclid \ np_2))) \Rightarrow \\ & ((\neg(X0 = X1) \wedge (k5_algstr_0 \ (k15_euclid \ np_2) \ X0 \ X1 = k4_struct_0 \\ & (k15_euclid \ np_2))) \Rightarrow ((\neg r1_xxreal_0 \ k32_sin_cos \ (k3_euclid_3 \\ & (k5_algstr_0 \ (k15_euclid \ np_2) \ X0 \ X1))) \Leftrightarrow (r1_xxreal_0 \ k32_sin_cos \\ & (k3_euclid_3 \ (k5_algstr_0 \ (k15_euclid \ np_2) \ X1 \ X0)))))) \end{aligned}$$