

t5_menelaus

(TMXyp8JVSHJHg9MEhiD4r3LkaeZadp1KGFs)

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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 $k1_numbers : \iota$ be given. Let $k17_euclid : \iota \Rightarrow \iota$ 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 $k11_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k18_euclid : \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k4_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k5_numbers : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v5_rltopsp1 : \iota \Rightarrow o$ be given. Let $l1_rltopsp1 : \iota \Rightarrow o$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & \quad (k15_euclid X0))) \Rightarrow (\forall X2.(v1_xreal_0 X2) \Rightarrow ((k4_algstr_0 \\ & (k15_euclid X0) (k1_rlvect_1 (k15_euclid X0) X1 X2) = k1_rlvect_1 \\ & \quad (k15_euclid X0) X1 (k7_binop_2 X2)) \wedge (k4_algstr_0 (k15_euclid \\ & X0) (k1_rlvect_1 (k15_euclid X0) X1 X2) = k1_rlvect_1 (k15_euclid \\ & \quad X0) (k4_algstr_0 (k15_euclid X0) X1) X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\ & ((k17_euclid (k4_algstr_0 (k15_euclid np_2) X0) = k7_binop_2 \\ & \quad (k17_euclid X0)) \wedge (k18_euclid (k4_algstr_0 (k15_euclid np_2) \\ & \quad X0) = k7_binop_2 (k18_euclid X0))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 k1_numbers) \Rightarrow ((k17_euclid (k1_rlvect_1 \\ & (k15_euclid np_2) X0 X1) = k11_binop_2 X1 (k17_euclid X0)) \wedge (k18_euclid \\ & \quad (k1_rlvect_1 (k15_euclid np_2) X0 X1) = k11_binop_2 X1 (k18_euclid \\ & \quad X0)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & ((v2_xreal_0 \ np_2) \wedge (m2_subset_1 \ np_2 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_2 \ k5_numbers) \wedge (m1_subset_1 \ np_2 \ k1_numbers)) \end{aligned} \quad (4)$$

Assume the following.

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

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0. (v7_ordinal1 \ X0) \Rightarrow & ((\neg v2_struct_0 \ (k15_euclid \ X0)) \wedge \\ & (v5_rltopsp1 \ (k15_euclid \ X0))) \end{aligned} \quad (7)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. & (((\neg v2_struct_0 \ X0) \wedge (l1_rlvect_1 \\ & X0)) \wedge ((m1_subset_1 \ X1 \ (u1_struct_0 \ X0)) \wedge (v1_xreal_0 \ X2))) \Rightarrow (\\ & m1_subset_1 \ (k1_rlvect_1 \ X0 \ X1 \ X2) \ (u1_struct_0 \ X0)) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0. (v7_ordinal1 \ X0) \Rightarrow & ((v5_rltopsp1 \ (k15_euclid \ X0)) \wedge \\ & (l1_rltopsp1 \ (k15_euclid \ X0))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0. (m1_subset_1 \ X0 \ k1_numbers) \Rightarrow (v1_xreal_0 \ X0) \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0. (v6_membered \ X0) \Rightarrow & (\forall X1. (m1_subset_1 \ X1 \ X0) \Rightarrow \\ & (v7_ordinal1 \ X1)) \end{aligned} \quad (12)$$

Theorem 1

$$\begin{aligned} \forall X0. (m1_subset_1 \ X0 \ (u1_struct_0 \ (k15_euclid \ np_2))) \Rightarrow & \\ (\forall X1. (m1_subset_1 \ X1 \ k1_numbers) \Rightarrow & ((k17_euclid \ (k1_rlvect_1 \\ (k15_euclid \ np_2) \ X0 \ (k7_binop_2 \ X1)) = & k7_binop_2 \ (k11_binop_2 \\ X1 \ (k17_euclid \ X0))) \wedge (k18_euclid \ (k1_rlvect_1 & (k15_euclid \ np_2) \\ X0 \ (k7_binop_2 \ X1)) = k7_binop_2 \ (k11_binop_2 & X1 \ (k18_euclid \ X0)))))) \end{aligned}$$