

t16_topreal9
(TMNkHZa4g9JP4CxDs74PRot3m8vnYSJki3R)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k15_euclid : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_topreal9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_topreal9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k14_euclid : \iota \Rightarrow \iota$ be given. Let $k10_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_metric_1 : \iota \Rightarrow o$ be given. Let $k9_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Let $v1_metric_1 : \iota \Rightarrow o$ be given. Let $v6_metric_1 : \iota \Rightarrow o$ be given. Let $v7_metric_1 : \iota \Rightarrow o$ be given. Let $v8_metric_1 : \iota \Rightarrow o$ be given. Let $v9_metric_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (u1_struct_0 (k15_euclid X0) = u1_struct_0 (k14_euclid X0)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(v1_xreal_0 \\ & X1) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 (k15_euclid X0))) \Rightarrow \\ & (\forall X3.(m1_subset_1 X3 (u1_struct_0 (k14_euclid X0))) \Rightarrow (\\ & (X2 = X3) \Rightarrow (k10_metric_1 (k14_euclid X0) X3 X1 = k2_topreal9 X0 X2 \\ & X1)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(l1_metric_1 X1) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow (r1_tarski (k9_metric_1 X1 \\ & X2 X0) (k10_metric_1 X1 X2 X0)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(v1_xreal_0 \\ & X1) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 (k15_euclid X0))) \Rightarrow \\ & (\forall X3.(m1_subset_1 X3 (u1_struct_0 (k14_euclid X0))) \Rightarrow (\\ & (X2 = X3) \Rightarrow (k9_metric_1 (k14_euclid X0) X3 X1 = k1_topreal9 X0 X2 X1)))))) \end{aligned} \quad (4)$$

Assume the following.

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

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0) \Rightarrow & ((v1_metric_1\ (k14_euclid\ X0)) \wedge \\ & ((v6_metric_1\ (k14_euclid\ X0)) \wedge (v7_metric_1\ (k14_euclid\ X0)) \wedge \\ & ((v8_metric_1\ (k14_euclid\ X0)) \wedge (v9_metric_1\ (k14_euclid\ X0)) \wedge \\ & (l1_metric_1\ (k14_euclid\ X0)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(v6_membered\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ X0) \Rightarrow (v7_ordinal1\ X1)) \quad (8)$$

Theorem 1

$$\begin{aligned} \forall X0.(m1_subset_1\ X0\ k5_numbers) \Rightarrow & (\forall X1.(v1_xreal_0 \\ & X1) \Rightarrow (\forall X2.(m1_subset_1\ X2\ (u1_struct_0\ (k15_euclid\ X0))) \Rightarrow \\ & (r1_tarski\ (k1_topreal9\ X0\ X2\ X1)\ (k2_topreal9\ X0\ X2\ X1)))) \end{aligned}$$