

t18_topreal9
(TMFH2r5arUa682HHELEVPyc2uFjyvDRRePzE)

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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 $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_topreal9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_topreal9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $l1_metric_1 : \iota \Rightarrow o$ be given. Let $k11_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ 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.

$$\begin{aligned} \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(l1_metric_1 X1) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow (k4_subset_1 (u1_struct_0 \\ X1) (k11_metric_1 X1 X2 X0) (k9_metric_1 X1 X2 X0) = k10_metric_1 \\ X1 X2 X0))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(v1_xreal_0 \\ X1) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 (k15_euclid X0))) \Rightarrow \\ (\forall X3.(m1_subset_1 X3 (u1_struct_0 (k14_euclid X0))) \Rightarrow (\\ (X2 = X3) \Rightarrow (k11_metric_1 (k14_euclid X0) X3 X1 = k3_topreal9 X0 X2 \\ X1)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(v1_xreal_0 \\ & X1) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 (k15_euclid X0))) \Rightarrow \\ & (\forall X3.(m1_subset_1 X3 (u1_struct_0 (k14_euclid X0))) \Rightarrow (\\ & (X2 = X3) \Rightarrow (k10_metric_1 (k14_euclid X0) X3 X1 = k2_topreal9 X0 X2 \\ & X1)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(v1_xreal_0 \\ & X1) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 (k15_euclid X0))) \Rightarrow \\ & (\forall X3.(m1_subset_1 X3 (u1_struct_0 (k14_euclid X0))) \Rightarrow (\\ & (X2 = X3) \Rightarrow (k9_metric_1 (k14_euclid X0) X3 X1 = k1_topreal9 X0 X2 X1)))))) \end{aligned} \quad (5)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (6)$$

Assume the following.

$$v6_membered k4_ordinal1 \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v7_ordinal1 X0) \wedge ((m1_subset_1 \\ & X1 (u1_struct_0 (k15_euclid X0))) \wedge (v1_xreal_0 X2))) \Rightarrow (m1_subset_1 \\ & (k3_topreal9 X0 X1 X2) (k1_zfmisc_1 (u1_struct_0 (k15_euclid X0)))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v7_ordinal1 X0) \wedge ((m1_subset_1 \\ & X1 (u1_struct_0 (k15_euclid X0))) \wedge (v1_xreal_0 X2))) \Rightarrow (m1_subset_1 \\ & (k1_topreal9 X0 X1 X2) (k1_zfmisc_1 (u1_struct_0 (k15_euclid X0)))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0) \Rightarrow ((v1_metric_1 (k14_euclid X0)) \wedge \\ & ((v6_metric_1 (k14_euclid X0)) \wedge ((v7_metric_1 (k14_euclid X0)) \wedge \\ & ((v8_metric_1 (k14_euclid X0)) \wedge ((v9_metric_1 (k14_euclid X0)) \wedge \\ & (l1_metric_1 (k14_euclid X0)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((m1_subset_1 X1 (k1_zfmisc_1 \\ & X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 X0))) \Rightarrow (k4_subset_1 X0 X1 X2 = \\ & k4_subset_1 X0 X2 X1) \end{aligned} \quad (11)$$

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

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(v1_xreal_0 \\ & X1) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 (k15_euclid X0))) \Rightarrow \\ & (k4_subset_1 (u1_struct_0 (k15_euclid X0)) (k1_topreal9 X0 X2 \\ & X1) (k3_topreal9 X0 X2 X1) = k2_topreal9 X0 X2 X1))) \end{aligned}$$