

t94_topreal6 (TMGTvxtrdEMHNQGnTwwaR- cudwpzUK95utJH)

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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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k15_euclid : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_topreal6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_euclid : \iota \Rightarrow \iota$ be given. Let $k5_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k14_euclid : \iota \Rightarrow \iota$ be given. Let $k4_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 (k15_euclid X0))) \Rightarrow (\forall X2.(\\ & m1_subset_1 X2 (u1_struct_0 (k15_euclid X0))) \Rightarrow (\forall X3.(m1_subset_1 \\ & X3 (u1_struct_0 (k15_euclid X0))) \Rightarrow (r1_xxreal_0 (k12_euclid (\\ & k5_algstr_0 (k15_euclid X0) X1 X2)) (k7_real_1 (k12_euclid (k5_algstr_0 \\ & (k15_euclid X0) X1 X3)) (k12_euclid (k5_algstr_0 (k15_euclid X0) \\ & X3 X2)))))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 (u1_struct_0 (k15_euclid X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 \\ & (u1_struct_0 (k15_euclid X0))) \Rightarrow (\forall X3.(m1_subset_1 X3 (\\ & u1_struct_0 (k14_euclid X0))) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 \\ & (k14_euclid X0))) \Rightarrow (((X3 = X1) \wedge (X4 = X2)) \Rightarrow (k12_euclid (k5_algstr_0 \\ & (k15_euclid X0) X1 X2) = k4_metric_1 (k14_euclid X0) X3 X4)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \tag{3}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \tag{4}$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \quad (5)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (6)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((m1_subset_1 X0 k5_numbers) \wedge \\ & ((m1_subset_1 X1 (u1_struct_0 (k15_euclid X0))) \wedge (m1_subset_1 \\ & X2 (u1_struct_0 (k15_euclid X0)))) \Rightarrow (m1_subset_1 (k1_topreal6 \\ & X0 X1 X2) k1_numbers) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. (m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 (k15_euclid X0))) \Rightarrow (\forall X2. (\\ & m1_subset_1 X2 (u1_struct_0 (k15_euclid X0))) \Rightarrow (\forall X3. (m1_subset_1 \\ & X3 k1_numbers) \Rightarrow ((X3 = k1_topreal6 X0 X1 X2) \Leftrightarrow (\exists X4. (m1_subset_1 \\ & X4 (u1_struct_0 (k14_euclid X0))) \wedge (\exists X5. (m1_subset_1 X5 \\ & (u1_struct_0 (k14_euclid X0))) \wedge ((X4 = X1) \wedge ((X5 = X2) \wedge (X3 = k4_metric_1 \\ & (k14_euclid X0) X4 X5)))))))))) \end{aligned} \quad (9)$$

Theorem 1

$$\begin{aligned} & \forall X0. (m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 (k15_euclid X0))) \Rightarrow (\forall X2. (\\ & m1_subset_1 X2 (u1_struct_0 (k15_euclid X0))) \Rightarrow (\forall X3. (m1_subset_1 \\ & X3 (u1_struct_0 (k15_euclid X0))) \Rightarrow (r1_xxreal_0 (k1_topreal6 \\ & X0 X1 X3) (k7_real_1 (k1_topreal6 X0 X1 X2) (k1_topreal6 X0 X2 X3)))))) \end{aligned}$$