

t29_topreal6

(TMXYaKb9WArw9P6keF199VTLH5ibT2v15tB)

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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 $k1_rltopsp1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k17_euclid : \iota \Rightarrow \iota$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v2_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.(m1_subset_1 X0 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\
 & (\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\
 & (\forall X2.(m1_subset_1 X2 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\
 & (((r1_xxreal_0 (k17_euclid X0) (k17_euclid X1)) \wedge (X2 \in k1_rltopsp1 \\
 & (k15_euclid np_2) X0 X1)) \Rightarrow ((r1_xxreal_0 (k17_euclid X0) (k17_euclid \\
 & X2)) \wedge (r1_xxreal_0 (k17_euclid X2) (k17_euclid X1))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.(m1_subset_1 X0 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\
 & (\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\
 & (\forall X2.(m1_subset_1 X2 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\
 & (\neg (X1 \in k1_rltopsp1 (k15_euclid np_2) X0 X2) \wedge ((r1_xxreal_0 (k17_euclid \\
 & X1) (k17_euclid X0)) \wedge ((r1_xxreal_0 (k17_euclid X1) (k17_euclid \\
 & X2)) \wedge ((X0 \neq X1) \wedge (X1 \neq X2) \wedge (\neg (k17_euclid X0 = k17_euclid X1) \wedge (k17_euclid \\
 & X2 = k17_euclid X1))))))))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.(m1_subset_1 X0 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\
 & (\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\
 & (\forall X2.(m1_subset_1 X2 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\
 & (\neg (X1 \in k1_rltopsp1 (k15_euclid np_2) X0 X2) \wedge ((r1_xxreal_0 (k17_euclid \\
 & X0) (k17_euclid X1)) \wedge ((r1_xxreal_0 (k17_euclid X2) (k17_euclid \\
 & X1)) \wedge ((X0 \neq X1) \wedge (X1 \neq X2) \wedge (\neg (k17_euclid X0 = k17_euclid X1) \wedge (k17_euclid \\
 & X2 = k17_euclid X1))))))))))
 \end{aligned} \tag{3}$$

Assume the following.

$$v3_membered\ k1_numbers \quad (4)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ (u1_struct_0\ (k15_euclid\ np_2))) \Rightarrow (m1_subset_1\ (k17_euclid\ X0)\ k1_numbers) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0\ X0) \wedge (v1_xxreal_0\ X1)) \Rightarrow ((r1_xxreal_0\ X0\ X1) \vee (r1_xxreal_0\ X1\ X0)) \quad (6)$$

Assume the following.

$$\forall X0.(v3_membered\ X0) \Rightarrow (v2_membered\ X0) \quad (7)$$

Assume the following.

$$\forall X0.(v2_membered\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ X0) \Rightarrow (v1_xxreal_0\ X1)) \quad (8)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1\ X0\ (u1_struct_0\ (k15_euclid\ np_2))) \Rightarrow \\ & (\forall X1.(m1_subset_1\ X1\ (u1_struct_0\ (k15_euclid\ np_2)))) \Rightarrow \\ & (\forall X2.(m1_subset_1\ X2\ (u1_struct_0\ (k15_euclid\ np_2)))) \Rightarrow \\ & ((X0 \in k1_rltopsp1\ (k15_euclid\ np_2)\ X1\ X2) \Rightarrow ((X0 = X1) \vee ((X0 = X2) \vee \\ & ((r1_xxreal_0\ (k17_euclid\ X2)\ (k17_euclid\ X1)) \vee ((\neg r1_xxreal_0 \\ & (k17_euclid\ X0)\ (k17_euclid\ X1)) \wedge (\neg r1_xxreal_0\ (k17_euclid\ X2) \\ & (k17_euclid\ X0)))))))) \end{aligned}$$