

t29_topreal4
(TMUP5TTSQ29Pgv63KjP7HgXGvDMLMGbeyy2)

October 27, 2020

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 $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v2_topreal4 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_topreal4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1_xboole_0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. (m1_subset_1 X0 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\ & (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 (k15_euclid \\ & np_2)))) \Rightarrow (\forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 \\ & (k15_euclid np_2)))) \Rightarrow (((v2_topreal4 X1 (k15_euclid np_2)) \wedge \\ & ((X0 \in X1) \wedge (X2 = \text{ReplSep} (\text{toset} (\lambda X3 : \iota. m1_subset_1 X3 (u1_struct_0 \\ & (k15_euclid np_2)))) (\lambda X3 : \iota. \neg (X3 \neq X0) \wedge (\forall X4. (m1_subset_1 \\ & X4 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2)))) \Rightarrow (\neg (r1_topreal4 \\ & X4 X0 X3) \wedge (r1_tarski X4 X1)))) (\lambda X3 : \iota. X3)))) \Rightarrow (r1_tarski \\ & X1 X2)))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. (r1_tarski X0 X1) \Leftrightarrow (\forall X2. (X2 \in X0) \Rightarrow (X2 \in X1)) \quad (6)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 (u1_struct_0 (k15_euclid np_2)))\Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid np_2)))\Rightarrow \\ & (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 (k15_euclid \\ & np_2))))\Rightarrow(\neg(v2_topreal4 X2 (k15_euclid np_2))\wedge((X0 \in X2)\wedge \\ & (X1 \in X2)\wedge(X0 \neq X1)\wedge(\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (\\ & u1_struct_0 (k15_euclid np_2))))\Rightarrow(\neg(r1_topreal4 X3 X0 X1)\wedge(\\ & r1_tarski X3 X2)))))))))) \end{aligned}$$