

t24_roughs_1

(TMH5dgbpKAYGi3rwEDGtqPCvWWuEEKFDkD5)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v3_roughs_1 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_roughs_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_eqrel_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_orders_2 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((r1_tarski X0 X1) \wedge (r1_tarski X1 X2)) \Rightarrow (r1_tarski X0 X2) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (k3_roughs_1 \\ & X0 X1 = ReplSep (toset (\lambda X2 : \iota. m1_subset_1 X2 (u1_struct_0 \\ & X0)))) (\lambda X2 : \iota. r1_tarski (k6_eqrel_1 (u1_struct_0 X0) (u1_struct_0 \\ & X0) (u1_orders_2 X0) X2) X1) (\lambda X2 : \iota. X2))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (r1_tarski X0 X1) \Leftrightarrow (\forall X2. (X2 \in X0) \Rightarrow (X2 \in X1)) \quad (3)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v3_roughs_1 X0) \wedge (l1_orders_2 \\ & X0))) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ & X0))) \Rightarrow (\forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 \\ & X0))) \Rightarrow ((r1_tarski X1 X2) \Rightarrow (r1_tarski (k3_roughs_1 X0 X1) (k3_roughs_1 \\ & X0 X2)))))) \end{aligned}$$