

t1_orders_3
(TMY18poAZC3fg2BdoWBk9sq2pkbK8UpvVEC)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_orders_3 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_partfun1 : \iota \Rightarrow \iota$ be given. Let $k4_relat_1 : \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $u1_orders_2 : \iota \Rightarrow \iota$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. ((m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \Rightarrow ((r2_relset_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3)) \quad (2)$$

Assume the following.

$$\forall X0. k6_partfun1 X0 = k4_relat_1 X0 \quad (3)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \quad (4)$$

Assume the following.

$$\forall X0. (l1_orders_2 X0) \Rightarrow (m1_subset_1 (u1_orders_2 X0) (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)))) \quad (5)$$

Assume the following.

$$\forall X0. (l1_orders_2 X0) \Rightarrow (l1_struct_0 X0) \quad (6)$$

Assume the following.

$$\forall X0.(v1_partfun1 (k6_partfun1 X0) X0) \wedge (m1_subset_1 (k6_partfun1 X0) (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))) \quad (7)$$

Assume the following.

$$\forall X0.v1_relat_1 (k4_relat_1 X0) \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((r1_orders_2 X0 X1 X2) \Leftrightarrow (k4_tarski X1 X2 \in u1_orders_2 X0)))) \quad (9) \end{aligned}$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow ((v1_orders_3 X0) \Leftrightarrow (r2_relset_1 (u1_struct_0 X0) (u1_struct_0 X0) (u1_orders_2 X0) (k6_partfun1 (u1_struct_0 X0)))) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(v1_relat_1 X1) \Rightarrow ((X1 = k4_relat_1 X0) \Leftrightarrow (\forall X2.\forall X3.(k4_tarski X2 X3 \in X1) \Leftrightarrow ((X2 \in X0) \wedge (X2 = X3)))) \quad (11)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_orders_3 X0) \wedge (l1_orders_2 X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((r1_orders_2 X0 X1 X2) \Leftrightarrow (X1 = X2)))) \end{aligned}$$