

l13_orders_3

(TMY8Y7yrxbGjx5CfoEVbCxXgy1HEyhxPYuD)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $v5_orders_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_relat_1 : \iota \Rightarrow \iota$ be given. Let $k6_partfun1 : \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (k1_funct_1 (k4_relat_1 X1) X0 = X0) \quad (2)$$

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.

$$\forall X0. (l1_orders_2 X0) \Rightarrow (l1_struct_0 X0) \quad (5)$$

Assume the following.

$$\forall X0. (v1_partfun1 (k6_partfun1 X0) X0) \wedge (m1_subset_1 (k6_partfun1 X0) (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_struct_0 X0) \Rightarrow & ((v1_funct_1 (k3_struct_0 X0)) \wedge \\ & ((v1_funct_2 (k3_struct_0 X0) (u1_struct_0 X0) (u1_struct_0 X0)) \wedge \\ & (m1_subset_1 (k3_struct_0 X0) (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 \\ & X0) (u1_struct_0 X0)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_orders_2 X0) \Rightarrow & (\forall X1.(l1_orders_2 X1) \Rightarrow (\forall X2. \\ & ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (u1_struct_0 X0) (u1_struct_0 \\ & X1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 \\ & X0) (u1_struct_0 X1)))))) \Rightarrow ((v5_orders_3 X2 X0 X1) \Leftrightarrow (\forall X3. \\ & (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\ & (u1_struct_0 X0)) \Rightarrow (r1_orders_2 X0 X3 X4) \Rightarrow (\forall X5.(m1_subset_1 \\ & X5 (u1_struct_0 X1)) \Rightarrow (\forall X6.(m1_subset_1 X6 (u1_struct_0 \\ & X1)) \Rightarrow (((X5 = k1_funct_1 X2 X3) \wedge (X6 = k1_funct_1 X2 X4)) \Rightarrow (r1_orders_2 \\ & X1 X5 X6)))))))))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.(l1_struct_0 X0) \Rightarrow (k3_struct_0 X0 = k6_partfun1 (u1_struct_0 X0)) \quad (9)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (v5_orders_3 (k3_struct_0 X0) X0 X0)$$