

t14_scmfsa8a
(TMN7pdTSdeqd7UJfUQhWWGxvfUyWKnCM8Gj)

October 27, 2020

Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_compos_1 : \iota \Rightarrow \iota$ be given. Let $k1_scmfsa_2 : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_afinsq_1 : \iota \Rightarrow o$ be given. Let $k2_afinsq_1 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_scmfsa6a : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_scmfsa6a : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k6_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v5_ordinal1 : \iota \Rightarrow o$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_card_1 : \iota \Rightarrow \iota$ be given. Let $k1_scmfsa6a : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_compos_1 : \iota \Rightarrow \iota$ be given. Let $k11_scmfsa_2 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. \forall X2. \\ k9_xtuple_0 (k6_funct_4 X0 X1 X2) = k9_xtuple_0 X0) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. ((\\ v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((r1_tarski X0 X1) \Leftrightarrow ((r1_tarski \\ (k9_xtuple_0 X0) (k9_xtuple_0 X1)) \wedge (\forall X2. (X2 \in k9_xtuple_0 \\ X0) \Rightarrow (k1_funct_1 X0 X2 = k1_funct_1 X1 X2)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v5_relat_1 \\ & X0 (u1_compos_1 k1_scmfsa_2)) \wedge ((\neg v1_xboole_0 X0) \wedge ((v1_funct_1 \\ & X0) \wedge ((v1_finset_1 X0) \wedge (v1_afinsq_1 X0)))))) \Rightarrow (\forall X1.(\\ & (v1_relat_1 X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge ((v5_relat_1 X1 \\ & (u1_compos_1 k1_scmfsa_2)) \wedge ((\neg v1_xboole_0 X1) \wedge ((v1_funct_1 \\ & X1) \wedge ((v1_finset_1 X1) \wedge (v1_afinsq_1 X1)))))) \Rightarrow (r1_tarski (k2_scmfsa6a \\ & X0) (k3_scmfsa6a X0 X1))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (5)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge ((v5_ordinal1 X0) \wedge ((v1_funct_1 \\ & X0) \wedge (v1_finset_1 X0)))) \Rightarrow (k2_afinsq_1 X0 = k9_xtuple_0 X0) \end{aligned} \quad (7)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \quad (8)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (9)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (10)$$

Assume the following.

$$\forall X0. (v1_finset_1 X0) \Rightarrow (m1_subset_1 (k5_card_1 X0) k4_ordinal1) \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge \\ & ((v5_relat_1 X0 (u1_compos_1 k1_scmfsa_2)) \wedge ((\neg v1_xboole_0 X0) \wedge \\ & ((v1_funct_1 X0) \wedge ((v1_finset_1 X0) \wedge (v1_afinsq_1 X0)))))) \wedge \\ & ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge ((v5_relat_1 X1 \\ & (u1_compos_1 k1_scmfsa_2)) \wedge ((\neg v1_xboole_0 X1) \wedge ((v1_funct_1 \\ & X1) \wedge ((v1_finset_1 X1) \wedge (v1_afinsq_1 X1)))))) \Rightarrow ((v1_relat_1 \\ & (k3_scmfsa6a X0 X1)) \wedge ((v4_relat_1 (k3_scmfsa6a X0 X1) k5_numbers) \wedge \\ & ((v5_relat_1 (k3_scmfsa6a X0 X1) (u1_compos_1 k1_scmfsa_2)) \wedge \\ & ((\neg v1_xboole_0 (k3_scmfsa6a X0 X1)) \wedge ((v1_funct_1 (k3_scmfsa6a \\ & X0 X1)) \wedge ((v1_finset_1 (k3_scmfsa6a X0 X1)) \wedge (v1_afinsq_1 (k3_scmfsa6a \\ & X0 X1))))))))) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 \ k5_numbers) \wedge ((v5_relat_1 X0 \ (u1_compos_1 \ k1_scmfsa_2)) \wedge ((v1_funct_1 X0) \wedge (v1_finset_1 X0)))))) \Rightarrow (k2_scmfsa6a \ X0 = k1_scmfsa6a \ X0 \ (k5_card_1 \ X0)) \quad (13)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 \ k5_numbers) \wedge ((v5_relat_1 X0 \ (u1_compos_1 \ k1_scmfsa_2)) \wedge ((v1_funct_1 X0) \wedge (v1_finset_1 X0)))))) \Rightarrow (\forall X1.(m2_subset_1 \ X1 \ k1_numbers \ k5_numbers) \Rightarrow (k1_scmfsa6a \ X0 \ X1 = k6_funct_4 \ X0 \ (k2_compos_1 \ k1_scmfsa_2) \ (k11_scmfsa_2 \ X1))) \quad (14)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 \ k5_numbers) \wedge ((v1_funct_1 X0) \wedge ((v1_finset_1 X0) \wedge (v1_afinsq_1 X0)))))) \Rightarrow ((v1_relat_1 X0) \wedge ((v5_ordinal1 \ X0) \wedge (v1_funct_1 X0))) \quad (15)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.(m1_subset_1 X1 \ (k1_zfmisc_1 \ X0)) \Rightarrow (v1_funct_1 X1)) \quad (16)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 \ (k1_zfmisc_1 X0)) \Rightarrow (v1_relat_1 X1)) \quad (17)$$

Theorem 1

$$\forall X0.((\neg v1_xboole_0 \ X0) \wedge ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 \ k5_numbers) \wedge ((v5_relat_1 X0 \ (u1_compos_1 \ k1_scmfsa_2)) \wedge ((v1_funct_1 X0) \wedge ((v1_finset_1 X0) \wedge (v1_afinsq_1 X0))))))) \Rightarrow (\forall X1.((\neg v1_xboole_0 \ X1) \wedge ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 \ k5_numbers) \wedge ((v5_relat_1 X1 \ (u1_compos_1 \ k1_scmfsa_2)) \wedge ((v1_funct_1 X1) \wedge ((v1_finset_1 X1) \wedge (v1_afinsq_1 X1))))))) \Rightarrow (\forall X2.(X2 \in k2_afinsq_1 \ X0) \Rightarrow (k1_funct_1 \ (k3_scmfsa6a \ X0 \ X1) \ X2 = k1_funct_1 \ (k2_scmfsa6a \ X0) \ X2)))$$