

t1_comseq_1
(TMYX6a8dB65dxAK12mEGTTpkyko31F2KbQV)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $k2_numbers : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (v1_relat_1 X2) \Rightarrow (((r1_tarski (k9_xtuple_0 X2) X0) \wedge (r1_tarski (k10_xtuple_0 X2) X1)) \Rightarrow (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \quad (2)$$

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.

$$\forall X0. \forall X1. r1_tarski X0 X0 \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (6)$$

Assume the following.

$$\neg v1_xboole_0 \ k2_numbers \quad (7)$$

Assume the following.

$$v1_xboole_0 \ k1_xboole_0 \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarski \ X0 \ X1) \Leftrightarrow (\forall X2.(X2 \in X0) \Rightarrow (X2 \in X1)) \quad (9)$$

Assume the following.

$$\forall X0.((v1_relat_1 \ X0) \wedge (v1_funct_1 \ X0)) \Rightarrow (\forall X1.(X1 = k10_xtuple_0 \ X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (\exists X3.(X3 \in k9_xtuple_0 \ X0) \wedge (X2 = k1_funct_1 \ X0 \ X3)))) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1))) \Rightarrow (((X1 \neq k1_xboole_0) \Rightarrow ((v1_funct_2 \ X2 \ X0 \ X1) \Leftrightarrow (X0 = k1_relset_1 \ X0 \ X2))) \wedge ((X1 = k1_xboole_0) \Rightarrow ((v1_funct_2 \ X2 \ X0 \ X1) \Leftrightarrow (X2 = k1_xboole_0)))) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(v1_relat_1 \ X1) \Rightarrow ((v5_relat_1 \ X1 \ X0) \Leftrightarrow (r1_tarski \ (k10_xtuple_0 \ X1) \ X0)) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1))) \Rightarrow ((v4_relat_1 \ X2 \ X0) \wedge (v5_relat_1 \ X2 \ X1)) \quad (13)$$

Theorem 1

$$\forall X0.((v1_relat_1 \ X0) \wedge (v1_funct_1 \ X0)) \Rightarrow (((v1_funct_1 \ X0) \wedge ((v1_funct_2 \ X0 \ k5_numbers \ k2_numbers) \wedge (m1_subset_1 \ X0 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \ k2_numbers)))))) \Leftrightarrow ((k9_xtuple_0 \ X0 = k5_numbers) \wedge (\forall X1.(X1 \in k5_numbers) \Rightarrow (m1_subset_1 \ (k1_funct_1 \ X0 \ X1) \ k2_numbers))))$$