

t32_osalg_1
(TMacVZj94yL9ewm8zFjt2HAMxE4Khjqfvns)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v11_struct_0 : \iota \Rightarrow o$ be given. Let $v4_osalg_1 : \iota \Rightarrow o$ be given. Let $v5_osalg_1 : \iota \Rightarrow o$ be given. Let $l3_osalg_1 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k7_osalg_1 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_osalg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v3_relat_2 : \iota \Rightarrow o$ be given. Let $v8_relat_2 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_eqrel_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_eqrel_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_osalg_1 : \iota \Rightarrow o$ be given. Let $u1_osalg_1 : \iota \Rightarrow \iota$ be given. Let $l2_osalg_1 : \iota \Rightarrow o$ be given. Let $k6_eqrel_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. ((v3_relat_2 X1) \wedge ((v8_relat_2 X1) \wedge ((v1_partfun1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))))) \Rightarrow (k8_eqrel_1 X0 X1 = k7_eqrel_1 X0 X1) \quad (5)$$

Assume the following.

$$\forall X0.(l1_osalg_1 X0) \Rightarrow ((v3_relat_2 (u1_osalg_1 X0)) \wedge ((v8_relat_2 (u1_osalg_1 X0)) \wedge ((v1_partfun1 (u1_osalg_1 X0) (u4_struct_0 X0)) \wedge (m1_subset_1 (u1_osalg_1 X0) (k1_zfmisc_1 (k2_zfmisc_1 (u4_struct_0 X0) (u4_struct_0 X0)))))))) \quad (6)$$

Assume the following.

$$\forall X0.(l3_osalg_1 X0) \Rightarrow ((l1_osalg_1 X0) \wedge (l2_osalg_1 X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v4_osalg_1 X0) \wedge ((v5_osalg_1 X0) \wedge (l3_osalg_1 X0)))))) \wedge (m1_subset_1 X1 (u4_struct_0 X0))) \Rightarrow (m2_subset_1 (k8_osalg_1 X0 X1) (k1_zfmisc_1 (u4_struct_0 X0) (k7_osalg_1 X0))) \quad (8)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v4_osalg_1 X0) \wedge ((v5_osalg_1 X0) \wedge (l3_osalg_1 X0)))))) \Rightarrow ((\neg v1_xboole_0 (k7_osalg_1 X0)) \wedge (m1_subset_1 (k7_osalg_1 X0) (k1_zfmisc_1 (k1_zfmisc_1 (u4_struct_0 X0)))))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v3_relat_2 X1) \wedge ((v8_relat_2 X1) \wedge ((v1_partfun1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))))) \Rightarrow ((\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k1_zfmisc_1 X0))) \Rightarrow ((X2 = k7_eqrel_1 X0 X1) \Leftrightarrow (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 X0)) \Rightarrow ((X3 \in X2) \Leftrightarrow (\exists X4.(X4 \in X0) \wedge (X3 = k6_eqrel_1 X0 X0 X1 X4))))))) \quad (10)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v4_osalg_1 X0) \wedge ((v5_osalg_1 X0) \wedge (l3_osalg_1 X0)))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u4_struct_0 X0)) \Rightarrow (k8_osalg_1 X0 X1 = k6_eqrel_1 (u4_struct_0 X0) (u4_struct_0 X0) (u1_osalg_1 X0) X1)) \quad (11)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v4_osalg_1 X0) \wedge ((v5_osalg_1 X0) \wedge (l3_osalg_1 X0)))))) \Rightarrow (k7_osalg_1 X0 = k8_eqrel_1 (u4_struct_0 X0) (u1_osalg_1 X0)) \quad (12)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_xboole_0 X1)) \quad (13)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v4_osalg_1 \\ X0) \wedge ((v5_osalg_1 X0) \wedge (l3_osalg_1 X0)))))) \Rightarrow (\forall X1.(m2_subset_1 \\ X1 (k1_zfmisc_1 (u4_struct_0 X0)) (k7_osalg_1 X0)) \Leftrightarrow (\exists X2. \\ (m1_subset_1 X2 (u4_struct_0 X0)) \wedge (X1 = k8_osalg_1 X0 X2))) \end{aligned}$$