

t18_osalg_2
(TMQKtX9NfmB1sBq86y4NiFUGsMwT9zEH7bJ)

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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 $v12_osalg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l3_msualg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_osalg_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_osalg_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_osalg_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $l1_msualg_1 : \iota \Rightarrow o$ be given. Let $m3_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $u3_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_msualg_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_msualg_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $l1_osalg_1 : \iota \Rightarrow o$ be given. Let $l2_osalg_1 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v11_osalg_1 : \iota \Rightarrow \iota \Rightarrow o$ 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.

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

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge (l1_msualg_1 X0))) \Rightarrow (\forall X1. (l3_msualg_1 X1 X0) \Rightarrow (\forall X2. (m3_pboole X2 (u1_struct_0 X0) (u3_msualg_1 X0 X1)) \Rightarrow (r1_tarski (k5_msualg_2 X0 X1 X2) (k6_msualg_2 X0 X1)))) \quad (3)$$

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.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge((\neg v11_struct_0 X0)\wedge(l1_msualg_1 X0)))\wedge((l3_msualg_1 X1 X0)\wedge(m3_pboole X2 (u1_struct_0 X0) (u3_msualg_1 X0 X1))))\Rightarrow(\neg v1_xboole_0 (k5_msualg_2 X0 X1 X2)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge((\neg v11_struct_0 X0)\wedge((v4_osalg_1 X0)\wedge((v5_osalg_1 X0)\wedge(l3_osalg_1 X0))))\wedge((v12_osalg_1 X1 X0)\wedge(l3_msualg_1 X1 X0)))\Rightarrow(\forall X2.(m2_osalg_2 X2 X0 X1)\Rightarrow(m3_pboole X2 (u1_struct_0 X0) (u3_msualg_1 X0 X1))) \quad (6)$$

Assume the following.

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

Assume the following.

$$\forall X0.(l2_osalg_1 X0)\Rightarrow((l1_msualg_1 X0)\wedge(l1_orders_2 X0)) \quad (8)$$

Assume the following.

$$\forall X0.(((\neg v2_struct_0 X0)\wedge((\neg v11_struct_0 X0)\wedge((v4_osalg_1 X0)\wedge((v5_osalg_1 X0)\wedge(l3_osalg_1 X0))))\Rightarrow(\forall X1.((v12_osalg_1 X1 X0)\wedge(l3_msualg_1 X1 X0))\Rightarrow(k6_osalg_2 X0 X1 = ReplSep (toset (\lambda X2 : \iota.m1_subset_1 X2 (k6_msualg_2 X0 X1))) (\lambda X2 : \iota.(v1_relat_1 X2)\wedge((v4_relat_1 X2 (u1_struct_0 X0))\wedge((v1_funct_1 X2)\wedge((v1_partfun1 X2 (u1_struct_0 X0))\wedge(v11_osalg_1 X2 X0)))))) (\lambda X2 : \iota.X2))) \quad (9)$$

Assume the following.

$$\forall X0.(((\neg v2_struct_0 X0)\wedge((\neg v11_struct_0 X0)\wedge((v4_osalg_1 X0)\wedge((v5_osalg_1 X0)\wedge(l3_osalg_1 X0))))\Rightarrow(\forall X1.((v12_osalg_1 X1 X0)\wedge(l3_msualg_1 X1 X0))\Rightarrow(\forall X2.(m2_osalg_2 X2 X0 X1)\Rightarrow(k5_osalg_2 X0 X1 X2 = ReplSep (toset (\lambda X3 : \iota.m1_subset_1 X3 (k5_msualg_2 X0 X1 X2))) (\lambda X3 : \iota.(v1_relat_1 X3)\wedge((v4_relat_1 X3 (u1_struct_0 X0))\wedge((v1_funct_1 X3)\wedge((v1_partfun1 X3 (u1_struct_0 X0))\wedge(v11_osalg_1 X3 X0)))))) (\lambda X3 : \iota.X3))) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarski X0 X1)\Leftrightarrow(\forall X2.(X2 \in X0)\Rightarrow(X2 \in X1)) \quad (11)$$

Theorem 1

$$\forall X0.(((\neg v2_struct_0 X0)\wedge((\neg v11_struct_0 X0)\wedge((v4_osalg_1 X0)\wedge((v5_osalg_1 X0)\wedge(l3_osalg_1 X0))))\Rightarrow(\forall X1.((v12_osalg_1 X1 X0)\wedge(l3_msualg_1 X1 X0))\Rightarrow(\forall X2.(m2_osalg_2 X2 X0 X1)\Rightarrow(r1_tarski (k5_osalg_2 X0 X1 X2) (k6_osalg_2 X0 X1))))$$