

t38_ec_pf_2

(TMKL15MCTi9HeQuNoJrESHt95LQ3iwaEPND)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_int_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k9_int_3 : \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_ec_pf_1 : \iota \Rightarrow \iota$ be given. Let $k3_mcart_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_ec_pf_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k4_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k8_group_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_mcart_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_mcart_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k3_xtuple_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v6_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v33_algstr_0 : \iota \Rightarrow o$ be given. Let $v3_group_1 : \iota \Rightarrow o$ be given. Let $v5_group_1 : \iota \Rightarrow o$ be given. Let $v2_rlvect_1 : \iota \Rightarrow o$ be given. Let $v3_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_vectsp_1 : \iota \Rightarrow o$ be given. Let $v5_vectsp_1 : \iota \Rightarrow o$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v36_algstr_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l5_algstr_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Assume the following.

$$m1_subset_1 \ k1_xboole_0 \ k4_ordinal1 \tag{1}$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_1) \wedge (m2_subset_1 \ np_1 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_1 \ k5_numbers) \wedge (m1_subset_1 \ np_1 \ k1_numbers)) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 \ X0) \wedge ((\neg v1_xboole_0 \ X1) \wedge \\ & (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & \quad X2 \ X0 \ X1) \Leftrightarrow (m1_subset_1 \ X2 \ X1)) \end{aligned} \tag{3}$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (4)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge ((\neg v1_xboole_0 X2) \wedge (\\ & (m1_subset_1 X3 X0) \wedge ((m1_subset_1 X4 X1) \wedge (m1_subset_1 X5 X2)))))) \Rightarrow \\ & (k4_domain_1 X0 X1 X2 X3 X4 X5 = k3_xtuple_0 X3 X4 X5) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0) \wedge \\ & ((\neg v1_xboole_0 X1) \wedge ((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X3 (k3_zfmisc_1 \\ & X0 X1 X2)))))) \Rightarrow (k3_mcart_1 X0 X1 X2 X3 = k2_xtuple_0 X3) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.k2_xtuple_0 (k4_tarski X0 X1) = X1 \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v7_ordinal1 X0) \wedge (v1_int_2 X0)) \Rightarrow ((\neg v6_struct_0 \\ & (k9_int_3 X0)) \wedge ((v13_algstr_0 (k9_int_3 X0)) \wedge ((v33_algstr_0 \\ & (k9_int_3 X0)) \wedge ((v3_group_1 (k9_int_3 X0)) \wedge ((v5_group_1 (k9_int_3 \\ & X0)) \wedge ((v2_rlvect_1 (k9_int_3 X0)) \wedge ((v3_rlvect_1 (k9_int_3 X0)) \wedge \\ & ((v4_rlvect_1 (k9_int_3 X0)) \wedge ((v4_vectsp_1 (k9_int_3 X0)) \wedge (\\ & v5_vectsp_1 (k9_int_3 X0)))))))))) \end{aligned} \quad (9)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \quad (10)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0) \wedge (v7_ordinal1 X0)) \Rightarrow ((\neg v2_struct_0 (k9_int_3 X0)) \wedge (v36_algstr_0 (k9_int_3 X0))) \quad (11)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\ & X2 X0 X1) \Rightarrow (m1_subset_1 X2 X0)) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.(l6_algstr_0 X0) \Rightarrow ((l2_algstr_0 X0) \wedge (l5_algstr_0 X0)) \quad (14)$$

Assume the following.

$$\forall X0.(l2_struct_0 X0) \Rightarrow (l1_struct_0 X0) \quad (15)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0) \Rightarrow ((l2_struct_0 X0) \wedge (l1_algstr_0 X0)) \quad (16)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (l6_algstr_0 (k9_int_3 X0)) \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v7_ordinal1 X0) \wedge (v1_int_2 X0)) \wedge (m1_subset_1 \\ & X1 (k3_ec_pf_1 (k9_int_3 X0)))) \Rightarrow (m2_subset_1 (k7_ec_pf_2 X0 X1) \\ & (k3_zfmisc_1 (u1_struct_0 (k9_int_3 X0)) (u1_struct_0 (k9_int_3 \\ & X0)) (u1_struct_0 (k9_int_3 X0))) (k3_ec_pf_1 (k9_int_3 X0))) \end{aligned} \quad (18)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\ & X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge (\\ & (v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 \\ & X0) \wedge ((v4_rlvect_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow ((\neg v1_xboole_0 \\ & (k3_ec_pf_1 X0)) \wedge (m1_subset_1 (k3_ec_pf_1 X0) (k1_zfmisc_1 (\\ & k3_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0) (u1_struct_0 X0)))))) \end{aligned} \quad (19)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v7_ordinal1 X0) \wedge (v1_int_2 X0)) \Rightarrow (\forall X1. (m2_subset_1 \\ & X1 (k3_zfmisc_1 (u1_struct_0 (k9_int_3 X0)) (u1_struct_0 (k9_int_3 \\ & X0)) (u1_struct_0 (k9_int_3 X0))) (k3_ec_pf_1 (k9_int_3 X0))) \Rightarrow \\ & (((k3_mcart_1 (u1_struct_0 (k9_int_3 X0)) (u1_struct_0 (k9_int_3 \\ & X0)) (u1_struct_0 (k9_int_3 X0)) X1 \neq k6_numbers) \Rightarrow (k7_ec_pf_2 \\ & X0 X1 = k4_domain_1 (u1_struct_0 (k9_int_3 X0)) (u1_struct_0 (k9_int_3 \\ & X0)) k5_numbers (k8_group_1 (k9_int_3 X0) (k1_mcart_1 (u1_struct_0 \\ & (k9_int_3 X0)) (u1_struct_0 (k9_int_3 X0)) (u1_struct_0 (k9_int_3 \\ & X0)) X1) (k11_algstr_0 (k9_int_3 X0) (k3_mcart_1 (u1_struct_0 \\ & (k9_int_3 X0)) (u1_struct_0 (k9_int_3 X0)) (u1_struct_0 (k9_int_3 \\ & X0)) X1))) (k8_group_1 (k9_int_3 X0) (k2_mcart_1 (u1_struct_0 \\ & (k9_int_3 X0)) (u1_struct_0 (k9_int_3 X0)) (u1_struct_0 (k9_int_3 \\ & X0)) X1) (k11_algstr_0 (k9_int_3 X0) (k3_mcart_1 (u1_struct_0 \\ & (k9_int_3 X0)) (u1_struct_0 (k9_int_3 X0)) (u1_struct_0 (k9_int_3 \\ & X0)) X1))) np_1)) \wedge ((k3_mcart_1 (u1_struct_0 (k9_int_3 X0)) (\\ & u1_struct_0 (k9_int_3 X0)) (u1_struct_0 (k9_int_3 X0)) X1 = k6_numbers) \Rightarrow \\ & (k7_ec_pf_2 X0 X1 = k4_domain_1 k5_numbers k5_numbers k5_numbers \\ & k6_numbers np_1 k6_numbers)))) \end{aligned} \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k3_xtuple_0 X0 X1 X2 = k4_tarski (k4_tarski X0 X1) X2 \quad (21)$$

Assume the following.

$$\forall X0.((v7_ordinal1 X0)\wedge(v1_int_2 X0))\Rightarrow((\neg v1_xboole_0 X0)\wedge((v7_ordinal1 X0)\wedge(v1_int_2 X0))) \quad (22)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(v1_xboole_0 X1)) \quad (23)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v7_ordinal1 X0)\wedge(v1_int_2 X0))\Rightarrow(\forall X1.(m1_subset_1 \\ & X1 (u1_struct_0 (k9_int_3 X0)))\Rightarrow(\forall X2.(m1_subset_1 X2 (\\ & u1_struct_0 (k9_int_3 X0)))\Rightarrow(\forall X3.(m2_subset_1 X3 (k3_zfmisc_1 \\ & (u1_struct_0 (k9_int_3 X0)) (u1_struct_0 (k9_int_3 X0)) (u1_struct_0 \\ & (k9_int_3 X0))) (k3_ec_pf_1 (k9_int_3 X0)))\Rightarrow((k3_mcart_1 (u1_struct_0 \\ & (k9_int_3 X0)) (u1_struct_0 (k9_int_3 X0)) (u1_struct_0 (k9_int_3 \\ & X0)) (k7_ec_pf_2 X0 X3)\neq k6_numbers)\Rightarrow((k7_ec_pf_2 X0 X3 = k4_domain_1 \\ & (u1_struct_0 (k9_int_3 X0)) (u1_struct_0 (k9_int_3 X0)) k5_numbers \\ & (k8_group_1 (k9_int_3 X0) (k1_mcart_1 (u1_struct_0 (k9_int_3 \\ & X0)) (u1_struct_0 (k9_int_3 X0)) (u1_struct_0 (k9_int_3 X0)) X3) \\ & (k11_algstr_0 (k9_int_3 X0) (k3_mcart_1 (u1_struct_0 (k9_int_3 \\ & X0)) (u1_struct_0 (k9_int_3 X0)) (u1_struct_0 (k9_int_3 X0)) X3))) \\ & (k8_group_1 (k9_int_3 X0) (k2_mcart_1 (u1_struct_0 (k9_int_3 \\ & X0)) (u1_struct_0 (k9_int_3 X0)) (u1_struct_0 (k9_int_3 X0)) X3) \\ & (k11_algstr_0 (k9_int_3 X0) (k3_mcart_1 (u1_struct_0 (k9_int_3 \\ & X0)) (u1_struct_0 (k9_int_3 X0)) (u1_struct_0 (k9_int_3 X0)) X3))) \\ & np_1)\wedge(k3_mcart_1 (u1_struct_0 (k9_int_3 X0)) (u1_struct_0 \\ & (k9_int_3 X0)) (u1_struct_0 (k9_int_3 X0)) X3\neq k6_numbers)))))) \end{aligned}$$