

t11_ec_pf_1
 (TMKrRn2s8GA7St5GE5VTwvaN4XSatRjRWML)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_int_2 : \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k9_int_3 : \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $v3_xxreal_0 : \iota \Rightarrow o$ be given. Let $k7_card_1 : \iota \Rightarrow \iota$ be given. Let $k6_card_1 : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $g6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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. Let $k7_int_3 : \iota \Rightarrow \iota$ be given. Let $k3_gr_cy_1 : \iota \Rightarrow \iota$ be given. Let $k1_funct_7 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v36_algstr_0 : \iota \Rightarrow o$ be given. Let $u2_struct_0 : \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $u1_algstr_0 : \iota \Rightarrow \iota$ be given. Let $u2_algstr_0 : \iota \Rightarrow \iota$ be given. Let $u3_struct_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow ((r1_xxreal_0 X0 X1) \Rightarrow ((v1_xboole_0 X0) \vee ((v2_xxreal_0 X1) \vee (v3_xxreal_0 X0)))))) \quad (1)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow ((X0 \in X1) \Leftrightarrow (\neg r1_xxreal_0 X1 X0))) \quad (2)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (k7_card_1 X0 = k6_card_1 X0) \quad (3)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(((v1_funct_1 \\ & X1)\wedge((v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0))))\wedge((v1_funct_1 X2)\wedge(\\ & (v1_funct_2 X2 (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0))))\wedge((m1_subset_1 X3 X0)\wedge \\ & (m1_subset_1 X4 X0))))\Rightarrow(\forall X5.\forall X6.\forall X7.\forall X8. \\ & \forall X9.(g6_algstr_0 X0 X1 X2 X3 X4 = g6_algstr_0 X5 X6 X7 X8 X9)\Rightarrow \\ & ((X0 = X5)\wedge((X1 = X6)\wedge((X2 = X7)\wedge((X3 = X8)\wedge(X4 = X9)))))) \end{aligned} \quad (5)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (6)$$

Assume the following.

$$\forall X0.(l6_algstr_0 X0)\Rightarrow((l2_algstr_0 X0)\wedge(l5_algstr_0 X0)) \quad (7)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0)\Rightarrow((l2_struct_0 X0)\wedge(l1_algstr_0 X0)) \quad (8)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(l6_algstr_0 (k9_int_3 X0)) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0)\Rightarrow(((v1_funct_1 (k7_int_3 X0))\wedge((v1_funct_2 \\ & (k7_int_3 X0) (k2_zfmisc_1 (k7_card_1 X0) (k7_card_1 X0)) (k7_card_1 \\ & X0))\wedge(m1_subset_1 (k7_int_3 X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 \\ & (k7_card_1 X0) (k7_card_1 X0)) (k7_card_1 X0)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0)\Rightarrow(((v1_funct_1 (k3_gr_cy_1 X0))\wedge(\\ & (v1_funct_2 (k3_gr_cy_1 X0) (k2_zfmisc_1 (k7_card_1 X0) (k7_card_1 \\ & X0)) (k7_card_1 X0))\wedge(m1_subset_1 (k3_gr_cy_1 X0) (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 (k7_card_1 X0) (k7_card_1 X0)) (k7_card_1 \\ & X0)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.m1_subset_1 (k1_funct_7 X0 X1) X1 \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. (((v1_funct_1 \\ & X1) \wedge ((v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0)))))) \wedge (((v1_funct_1 X2) \wedge (\\ & (v1_funct_2 X2 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0)))))) \wedge ((m1_subset_1 X3 X0) \wedge \\ & (m1_subset_1 X4 X0))) \Rightarrow ((v36_algstr_0 (g6_algstr_0 X0 X1 X2 X3 \\ & X4)) \wedge (l6_algstr_0 (g6_algstr_0 X0 X1 X2 X3 X4))) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0. (l2_struct_0 X0) \Rightarrow (k4_struct_0 X0 = u2_struct_0 X0) \quad (14)$$

Assume the following.

$$\forall X0. (v7_ordinal1 X0) \Rightarrow (k6_card_1 X0 = X0) \quad (15)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (k1_funct_7 X0 X1 = X0) \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v7_ordinal1 X0) \Rightarrow (k9_int_3 X0 = g6_algstr_0 (k7_card_1 \\ & X0) (k3_gr_cy_1 X0) (k7_int_3 X0) (k1_funct_7 np_1 (k7_card_1 \\ & X0)) (k1_funct_7 k6_numbers (k7_card_1 X0))) \end{aligned} \quad (17)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (v7_ordinal1 X0) \quad (18)$$

Assume the following.

$$\forall X0. ((v1_xxreal_0 X0) \wedge (v2_xxreal_0 X0)) \Rightarrow ((\neg v1_xboole_0 X0) \wedge ((v1_xxreal_0 X0) \wedge (\neg v3_xxreal_0 X0))) \quad (19)$$

Assume the following.

$$\forall X0. (v7_ordinal1 X0) \Rightarrow ((v7_ordinal1 X0) \wedge (\neg v3_xxreal_0 X0)) \quad (20)$$

Assume the following.

$$\forall X0. ((v7_ordinal1 X0) \wedge (v1_int_2 X0)) \Rightarrow ((\neg v1_xboole_0 X0) \wedge ((v7_ordinal1 X0) \wedge (v1_int_2 X0))) \quad (21)$$

Assume the following.

$$\forall X0. (v7_ordinal1 X0) \Rightarrow (v1_xxreal_0 X0) \quad (22)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(v1_xreal_0\ X0) \quad (23)$$

Assume the following.

$$\begin{aligned} \forall X0.(l6_algstr_0\ X0)\Rightarrow((v36_algstr_0\ X0)\Rightarrow(X0 = g6_algstr_0 \\ (u1_struct_0\ X0)\ (u1_algstr_0\ X0)\ (u2_algstr_0\ X0)\ (u3_struct_0 \\ X0)\ (u2_struct_0\ X0))) \end{aligned} \quad (24)$$

Theorem 1

$$\forall X0.((v7_ordinal1\ X0)\wedge(v1_int_2\ X0))\Rightarrow(k6_numbers = k4_struct_0 \\ (k9_int_3\ X0))$$