

t33_ec_pf_2 (TMHP- TQSVVyedU4vYJKPW07n8rNjWkCm6ovz)

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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 $k3_ec_pf_1 : \iota \Rightarrow \iota$ be given. Let $k6_ec_pf_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ec_pf_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_ec_pf_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_ec_pf_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v2_struct_0 : \iota \Rightarrow o$ 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.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ & ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge ((\neg v1_xboole_0 X2) \wedge (\\ & (m1_subset_1 X3 X0) \wedge ((m1_subset_1 X4 X1) \wedge (m1_subset_1 X5 X2)))))) \Rightarrow \\ & (k4_domain_1 X0 X1 X2 X3 X4 X5 = k3_xtuple_0 X3 X4 X5) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. ((\neg v1_xboole_0 X0) \wedge (v7_ordinal1 X0)) \Rightarrow ((\neg v2_struct_0 (k9_int_3 X0)) \wedge (v36_algstr_0 (k9_int_3 X0))) \quad (3)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \quad (4)$$

Assume the following.

$$\forall X0. (l6_algstr_0 X0) \Rightarrow ((l2_algstr_0 X0) \wedge (l5_algstr_0 X0)) \quad (5)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0) \Rightarrow ((l2_struct_0 X0) \wedge (l1_algstr_0 X0)) \quad (6)$$

Assume the following.

$$\forall X0.(l1_algstr_0 X0) \Rightarrow (l1_struct_0 X0) \quad (7)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (l6_algstr_0 (k9_int_3 X0)) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((v7_ordinal1 X0) \wedge \\ & (v1_int_2 X0)) \wedge ((m1_subset_1 X1 (u1_struct_0 (k9_int_3 X0))) \wedge \\ & ((m1_subset_1 X2 (u1_struct_0 (k9_int_3 X0))) \wedge (m1_subset_1 X3 \\ & (k6_ec_pf_1 X0 X1 X2)))))) \Rightarrow (m1_subset_1 (k6_ec_pf_2 X0 X1 X2 X3) \\ & (u1_struct_0 (k9_int_3 X0))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((v7_ordinal1 X0) \wedge (v1_int_2 \\ & X0)) \wedge ((m1_subset_1 X1 (u1_struct_0 (k9_int_3 X0))) \wedge (m1_subset_1 \\ & X2 (u1_struct_0 (k9_int_3 X0)))))) \Rightarrow ((-v1_xboole_0 (k6_ec_pf_1 \\ & X0 X1 X2)) \wedge (m1_subset_1 (k6_ec_pf_1 X0 X1 X2) (k1_zfmisc_1 (k3_ec_pf_1 \\ & (k9_int_3 X0)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((v7_ordinal1 X0) \wedge \\ & (v1_int_2 X0)) \wedge ((m1_subset_1 X1 (u1_struct_0 (k9_int_3 X0))) \wedge \\ & ((m1_subset_1 X2 (u1_struct_0 (k9_int_3 X0))) \wedge (m1_subset_1 X3 \\ & (k6_ec_pf_1 X0 X1 X2)))))) \Rightarrow (m1_subset_1 (k5_ec_pf_2 X0 X1 X2 X3) \\ & (u1_struct_0 (k9_int_3 X0))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((v7_ordinal1 X0) \wedge \\ & (v1_int_2 X0)) \wedge ((m1_subset_1 X1 (u1_struct_0 (k9_int_3 X0))) \wedge \\ & ((m1_subset_1 X2 (u1_struct_0 (k9_int_3 X0))) \wedge (m1_subset_1 X3 \\ & (k6_ec_pf_1 X0 X1 X2)))))) \Rightarrow (m1_subset_1 (k4_ec_pf_2 X0 X1 X2 X3) \\ & (u1_struct_0 (k9_int_3 X0))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v7_ordinal1\ X0)\wedge(v1_int_2\ X0))\Rightarrow(\forall X1.(m1_subset_1 \\
& \quad X1\ (u1_struct_0\ (k9_int_3\ X0)))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (\\
& \quad u1_struct_0\ (k9_int_3\ X0)))\Rightarrow(\forall X3.(m2_subset_1\ X3\ (k3_ec_pf_1 \\
& \quad (k9_int_3\ X0))\ (k6_ec_pf_1\ X0\ X1\ X2))\Rightarrow(\forall X4.(m1_subset_1 \\
& \quad X4\ (u1_struct_0\ (k9_int_3\ X0)))\Rightarrow((X4 = k6_ec_pf_2\ X0\ X1\ X2\ X3)\Leftrightarrow(\\
& \quad \forall X5.\forall X6.\forall X7.(X3 = k3_xtuple_0\ X5\ X6\ X7)\Rightarrow(X4 = \\
& \quad X7))))))
\end{aligned} \tag{13}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v7_ordinal1\ X0)\wedge(v1_int_2\ X0))\Rightarrow(\forall X1.(m1_subset_1 \\
& \quad X1\ (u1_struct_0\ (k9_int_3\ X0)))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (\\
& \quad u1_struct_0\ (k9_int_3\ X0)))\Rightarrow(\forall X3.(m2_subset_1\ X3\ (k3_ec_pf_1 \\
& \quad (k9_int_3\ X0))\ (k6_ec_pf_1\ X0\ X1\ X2))\Rightarrow(\forall X4.(m1_subset_1 \\
& \quad X4\ (u1_struct_0\ (k9_int_3\ X0)))\Rightarrow((X4 = k5_ec_pf_2\ X0\ X1\ X2\ X3)\Leftrightarrow(\\
& \quad \forall X5.\forall X6.\forall X7.(X3 = k3_xtuple_0\ X5\ X6\ X7)\Rightarrow(X4 = \\
& \quad X6))))))
\end{aligned} \tag{14}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v7_ordinal1\ X0)\wedge(v1_int_2\ X0))\Rightarrow(\forall X1.(m1_subset_1 \\
& \quad X1\ (u1_struct_0\ (k9_int_3\ X0)))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (\\
& \quad u1_struct_0\ (k9_int_3\ X0)))\Rightarrow(\forall X3.(m2_subset_1\ X3\ (k3_ec_pf_1 \\
& \quad (k9_int_3\ X0))\ (k6_ec_pf_1\ X0\ X1\ X2))\Rightarrow(\forall X4.(m1_subset_1 \\
& \quad X4\ (u1_struct_0\ (k9_int_3\ X0)))\Rightarrow((X4 = k4_ec_pf_2\ X0\ X1\ X2\ X3)\Leftrightarrow(\\
& \quad \forall X5.\forall X6.\forall X7.(X3 = k3_xtuple_0\ X5\ X6\ X7)\Rightarrow(X4 = \\
& \quad X5))))))
\end{aligned} \tag{15}$$

Assume the following.

$$\forall X0.((v7_ordinal1\ X0)\wedge(v1_int_2\ X0))\Rightarrow((\neg v1_xboole_0\ X0)\wedge((v7_ordinal1\ X0)\wedge(v1_int_2\ X0))) \tag{16}$$

Assume the following.

$$\forall X0.(v1_xboole_0\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ X0))\Rightarrow(v1_xboole_0\ X1)) \tag{17}$$

Theorem 1

$$\begin{aligned} & \forall X0.((v7_ordinal1\ X0)\wedge(v1_int_2\ X0))\Rightarrow(\forall X1.(m1_subset_1 \\ & \quad X1\ (u1_struct_0\ (k9_int_3\ X0)))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (\\ & u1_struct_0\ (k9_int_3\ X0)))\Rightarrow(\forall X3.(m1_subset_1\ X3\ (u1_struct_0 \\ & \quad (k9_int_3\ X0)))\Rightarrow(\forall X4.(m1_subset_1\ X4\ (u1_struct_0\ (k9_int_3 \\ & \quad X0)))\Rightarrow(\forall X5.(m1_subset_1\ X5\ (u1_struct_0\ (k9_int_3\ X0)))\Rightarrow \\ & \quad (\forall X6.(m2_subset_1\ X6\ (k3_ec_pf_1\ (k9_int_3\ X0))\ (k6_ec_pf_1 \\ & \quad X0\ X1\ X2))\Rightarrow((X6 = k4_domain_1\ (u1_struct_0\ (k9_int_3\ X0))\ (u1_struct_0 \\ & \quad (k9_int_3\ X0))\ (u1_struct_0\ (k9_int_3\ X0))\ X3\ X4\ X5)\Rightarrow((k4_ec_pf_2 \\ & \quad X0\ X1\ X2\ X6 = X3)\wedge((k5_ec_pf_2\ X0\ X1\ X2\ X6 = X4)\wedge(k6_ec_pf_2\ X0\ X1\ X2 \\ & \quad \quad X6 = X5)))))))))) \end{aligned}$$