

t21_extpro_1
(TMQTUXjDarDUh4s7YCrB7261Uw9Sorpclubq)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_setfam_1 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_compos_1 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v5_funct_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $r1_compos_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_extpro_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_extpro_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_compos_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_compos_1 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $l1_compos_1 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $l1_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v1_xboole_0 X0) \wedge (\neg v1_setfam_1 X0)) \Rightarrow (\forall X1. \\
& ((\neg v2_struct_0 X1) \wedge (v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 X1 X0) \wedge \\
& ((v3_extpro_1 X1 X0) \wedge (l1_extpro_1 X1 X0)))) \Rightarrow (\forall X2. ((v1_relat_1 \\
& X2) \wedge ((v4_relat_1 X2 k5_numbers) \wedge ((v5_relat_1 X2 (u1_compos_1 \\
& X1)) \wedge ((v1_funct_1 X2) \wedge (v1_partfun1 X2 k5_numbers)))) \Rightarrow (\forall X3. \\
& ((v1_relat_1 X3) \wedge ((v4_relat_1 X3 (u1_struct_0 X1)) \wedge ((v1_funct_1 \\
& X3) \wedge ((v5_funct_1 X3 (k2_memstr_0 X0 X1)) \wedge (v1_partfun1 X3 (u1_struct_0 \\
& X1)))))) \Rightarrow ((\exists X4. (m2_subset_1 X4 k1_numbers k5_numbers) \wedge \\
& (k3_compos_1 X1 X2 (k5_memstr_0 X0 X1 (k5_extpro_1 X0 X1 X2 X3 X4)) = \\
& k2_compos_1 X1)) \Rightarrow (\forall X4. (m2_subset_1 X4 k1_numbers k5_numbers) \Rightarrow \\
& (k6_extpro_1 X0 X1 X2 X3 = k6_extpro_1 X0 X1 X2 (k5_extpro_1 X0 X1 X2 \\
& X3 X4))))))
\end{aligned}$$

(1)

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 X2 X0 X1)\Leftrightarrow(m1_subset_1 X2 X1)) \quad (2)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((l1_compos_1 X0)\wedge(((v1_relat_1 X1)\wedge((v4_relat_1 X1 k5_numbers)\wedge((v5_relat_1 X1 (u1_compos_1 X0))\wedge((v1_funct_1 X1)\wedge(v1_partfun1 X1 k5_numbers))))))\wedge(v7_ordinal1 X2)))\Rightarrow(k3_compos_1 X0 X1 X2 = k1_funct_1 X1 X2) \quad (4)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1)\wedge(v3_ordinal1 k4_ordinal1) \quad (5)$$

Assume the following.

$$\neg v1_setfam_1 k1_numbers \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(l1_extpro_1 X1 X0)\Rightarrow((l1_memstr_0 X1 X0)\wedge(l1_compos_1 X1)) \quad (7)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_setfam_1 X0)\wedge(((\neg v2_struct_0 X1)\wedge((v2_memstr_0 X1 X0)\wedge((v3_memstr_0 X1 X0)\wedge(l1_memstr_0 X1 X0))))\wedge((v1_relat_1 X2)\wedge((v4_relat_1 X2 (u1_struct_0 X1))\wedge((v1_funct_1 X2)\wedge(v5_funct_1 X2 (k2_memstr_0 X0 X1)))))))\Rightarrow(m2_subset_1 (k5_memstr_0 X0 X1 X2) k1_numbers k5_numbers) \quad (9)$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. ((\neg v1_setfam_1 \\
& X0) \wedge (((\neg v2_struct_0 X1) \wedge ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 \\
& X1 X0) \wedge (l1_extpro_1 X1 X0)))) \wedge (((v1_relat_1 X2) \wedge ((v4_relat_1 \\
& X2 k5_numbers) \wedge ((v5_relat_1 X2 (u1_compos_1 X1)) \wedge (v1_funct_1 \\
& X2))) \wedge (((v1_relat_1 X3) \wedge ((v4_relat_1 X3 (u1_struct_0 X1)) \wedge \\
& ((v1_funct_1 X3) \wedge ((v5_funct_1 X3 (k2_memstr_0 X0 X1)) \wedge (v1_partfun1 \\
& X3 (u1_struct_0 X1)))))) \wedge (v7_ordinal1 X4)))) \Rightarrow ((v1_relat_1 \\
& (k5_extpro_1 X0 X1 X2 X3 X4)) \wedge ((v4_relat_1 (k5_extpro_1 X0 X1 X2 \\
& X3 X4) (u1_struct_0 X1)) \wedge ((v1_funct_1 (k5_extpro_1 X0 X1 X2 X3 X4)) \wedge \\
& ((v5_funct_1 (k5_extpro_1 X0 X1 X2 X3 X4) (k2_memstr_0 X0 X1)) \wedge (\\
& v1_partfun1 (k5_extpro_1 X0 X1 X2 X3 X4) (u1_struct_0 X1))))))
\end{aligned} \tag{10}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (l1_compos_1 X0) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge ((\\
& v4_relat_1 X1 k5_numbers) \wedge ((v5_relat_1 X1 (u1_compos_1 X0)) \wedge \\
& (v1_funct_1 X1)))) \Rightarrow (\forall X2. (r1_compos_1 X0 X1 X2) \Leftrightarrow ((X2 \in k9_xtuple_0 \\
& X1) \wedge (k1_funct_1 X1 X2 = k2_compos_1 X0)))
\end{aligned} \tag{11}$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \tag{12}$$

Assume the following.

$$\forall X0. (\neg v1_setfam_1 X0) \Rightarrow (\neg v1_xboole_0 X0) \tag{13}$$

Theorem 1

$$\begin{aligned}
& \forall X0. ((\neg v1_xboole_0 X0) \wedge (\neg v1_setfam_1 X0)) \Rightarrow (\forall X1. \\
& ((\neg v2_struct_0 X1) \wedge ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 X1 X0) \wedge \\
& ((v3_extpro_1 X1 X0) \wedge (l1_extpro_1 X1 X0)))) \Rightarrow (\forall X2. ((v1_relat_1 \\
& X2) \wedge ((v4_relat_1 X2 k5_numbers) \wedge ((v5_relat_1 X2 (u1_compos_1 \\
& X1)) \wedge ((v1_funct_1 X2) \wedge (v1_partfun1 X2 k5_numbers)))) \Rightarrow (\forall X3. \\
& ((v1_relat_1 X3) \wedge ((v4_relat_1 X3 (u1_struct_0 X1)) \wedge ((v1_funct_1 \\
& X3) \wedge ((v5_funct_1 X3 (k2_memstr_0 X0 X1)) \wedge (v1_partfun1 X3 (u1_struct_0 \\
& X1)))))) \Rightarrow ((\exists X4. (m2_subset_1 X4 k1_numbers k5_numbers) \wedge \\
& (r1_compos_1 X1 X2 (k5_memstr_0 X0 X1 (k5_extpro_1 X0 X1 X2 X3 X4)))) \Rightarrow \\
& (\forall X4. (m2_subset_1 X4 k1_numbers k5_numbers) \Rightarrow (k6_extpro_1 \\
& X0 X1 X2 X3 = k6_extpro_1 X0 X1 X2 (k5_extpro_1 X0 X1 X2 X3 X4))))))
\end{aligned}$$