

t27_extpro_1 (TMN-
NAVBS2W6rAmyVNdNgaWu17rJNFJJV2Yr)

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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 $k4_extpro_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_extpro_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v1_xboole_0 X0) \wedge (\neg v1_setfam_1 X0)) \Rightarrow (\forall X1. \\
 & ((\neg v2_struct_0 X1) \wedge ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 X1 X0) \wedge \\
 & (l1_extpro_1 X1 X0)))) \Rightarrow (\forall X2. ((v1_relat_1 X2) \wedge ((v4_relat_1 \\
 & X2 k5_numbers) \wedge ((v5_relat_1 X2 (u1_compos_1 X1)) \wedge (v1_funct_1 \\
 & X2)))) \Rightarrow (\forall X3. ((v1_relat_1 X3) \wedge ((v4_relat_1 X3 (u1_struct_0 \\
 & X1)) \wedge ((v1_funct_1 X3) \wedge ((v5_funct_1 X3 (k2_memstr_0 X0 X1)) \wedge (\\
 & v1_partfun1 X3 (u1_struct_0 X1)))))) \Rightarrow (\forall X4. (v7_ordinal1 \\
 & X4) \Rightarrow (k5_extpro_1 X0 X1 X2 X3 (k1_nat_1 X4 np_1) = k4_extpro_1 X0 \\
 & X1 (k5_extpro_1 X0 X1 X2 X3 X4) X2))))
 \end{aligned} \tag{1}$$

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.

$$\begin{aligned} \forall X0 : \iota \Rightarrow o. ((X0 \text{ k6_numbers}) \wedge (\forall X1. (m2_subset_1 \\ X1 \text{ k1_numbers } k5_numbers) \Rightarrow ((X0 \text{ X1}) \Rightarrow (X0 (k2_nat_1 \text{ X1 } np_1)))))) \Rightarrow \\ (\forall X1. (m2_subset_1 \text{ X1 } k1_numbers \text{ k5_numbers}) \Rightarrow (X0 \text{ X1})) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((\neg v1_xboole_0 \text{ X0}) \wedge ((\neg v1_xboole_0 \text{ X1}) \wedge \\ (m1_subset_1 \text{ X1 } (k1_zfmisc_1 \text{ X0})))) \Rightarrow (\forall X2. (m2_subset_1 \\ X2 \text{ X0 } X1) \Leftrightarrow (m1_subset_1 \text{ X2 } X1)) \end{aligned} \quad (4)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((m1_subset_1 \text{ X0 } k5_numbers) \wedge (v7_ordinal1 \\ X1)) \Rightarrow (k2_nat_1 \text{ X0 } X1 = k2_xcmplx_0 \text{ X0 } X1) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((v7_ordinal1 \text{ X0}) \wedge (m1_subset_1 \text{ X1 } k5_numbers)) \Rightarrow \\ (k1_nat_1 \text{ X0 } X1 = k2_xcmplx_0 \text{ X0 } X1) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. \forall X3. (((\neg v1_xboole_0 \\ X0) \wedge (\neg v1_setfam_1 \text{ X0})) \wedge (((\neg v2_struct_0 \text{ X1}) \wedge ((v2_memstr_0 \text{ X1} \\ X0) \wedge ((v3_memstr_0 \text{ X1 } X0) \wedge (l1_extpro_1 \text{ X1 } X0)))))) \wedge (((v1_relat_1 \\ X2) \wedge ((v4_relat_1 \text{ X2 } k5_numbers) \wedge ((v5_relat_1 \text{ X2 } (u1_compos_1 \\ X1)) \wedge (v1_funct_1 \text{ X2})))))) \wedge ((v1_relat_1 \text{ X3}) \wedge ((v4_relat_1 \text{ X3 } (u1_struct_0 \\ X1)) \wedge ((v1_funct_1 \text{ X3}) \wedge ((v5_funct_1 \text{ X3 } (k2_memstr_0 \text{ X0 } X1)) \wedge (\\ v1_partfun1 \text{ X3 } (u1_struct_0 \text{ X1})))))))))) \Rightarrow (k5_extpro_1 \text{ X0 } X1 \text{ X2} \\ X3 \text{ k6_numbers} = X3) \end{aligned} \quad (8)$$

Assume the following.

$$(\neg v1_xboole_0 \text{ k4_ordinal1}) \wedge (v3_ordinal1 \text{ k4_ordinal1}) \quad (9)$$

Assume the following.

$$\neg v1_setfam_1 \text{ k1_numbers} \quad (10)$$

Assume the following.

$$m1_subset_1 \text{ k5_numbers } (k1_zfmisc_1 \text{ k1_numbers}) \quad (11)$$

Assume the following.

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

Assume the following.

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

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0) \wedge (\neg v1_setfam_1 X0)) \Rightarrow (\forall X1. \\ & ((\neg v2_struct_0 X1) \wedge ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 X1 X0) \wedge \\ & ((v3_extpro_1 X1 X0) \wedge (l1_extpro_1 X1 X0)))))) \Rightarrow (\forall X2.((v1_relat_1 \\ & X2) \wedge ((v4_relat_1 X2 k5_numbers) \wedge ((v5_relat_1 X2 (u1_compos_1 \\ & X1)) \wedge ((v1_funct_1 X2) \wedge (v1_partfun1 X2 k5_numbers)))))) \Rightarrow (\forall X3. \\ & ((v1_relat_1 X3) \wedge ((v4_relat_1 X3 (u1_struct_0 X1)) \wedge ((v1_funct_1 \\ & X3) \wedge ((v5_funct_1 X3 (k2_memstr_0 X0 X1)) \wedge (v1_partfun1 X3 (u1_struct_0 \\ & X1)))))) \Rightarrow ((X3 = k4_extpro_1 X0 X1 X3 X2) \Rightarrow (\forall X4.(m2_subset_1 \\ & X4 k1_numbers k5_numbers) \Rightarrow (k5_extpro_1 X0 X1 X2 X3 X4 = X3)))))) \end{aligned}$$