

t5_scm_1

(TMLnrJbu16ne92yevD9EPUBBy1LFmib5nB7D)

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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 $k1_ami_3 : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ 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 $np_2 : \iota$ be given. Let $v1_ami_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k3_compos_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_ami_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_extpro_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_card_1 : \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k2_ami_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ami_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_ami_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_ami_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v3_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_setfam_1 : \iota \Rightarrow o$ be given. Let $l1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_ami_3))) \Rightarrow \\
 & (\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_ami_3))) \Rightarrow \\
 & (\forall X2.((v1_relat_1 X2) \wedge ((v4_relat_1 X2 (u1_struct_0 k1_ami_3)) \wedge \\
 & ((v1_funct_1 X2) \wedge ((v5_funct_1 X2 (k2_memstr_0 np_2 k1_ami_3)) \wedge \\
 & (v1_partfun1 X2 (u1_struct_0 k1_ami_3)))))) \Rightarrow ((k1_funct_1 (k2_extpro_1 \\
 & np_2 k1_ami_3 (k3_ami_3 X0 X1) X2) (k4_struct_0 k1_ami_3) = k4_card_1 \\
 & (k5_memstr_0 np_2 k1_ami_3 X2)) \wedge ((k1_funct_1 (k2_extpro_1 np_2 \\
 & k1_ami_3 (k3_ami_3 X0 X1) X2) X0 = k2_xcmplx_0 (k1_funct_1 X2 X0) \\
 & (k1_funct_1 X2 X1)) \wedge (\forall X3.((v1_ami_2 X3) \wedge (m1_subset_1 \\
 & X3 (u1_struct_0 k1_ami_3))) \Rightarrow ((X3 \neq X0) \Rightarrow (k1_funct_1 (k2_extpro_1 \\
 & np_2 k1_ami_3 (k3_ami_3 X0 X1) X2) X3 = k1_funct_1 X2 X3))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & ((v2_xreal_0 \ np_2) \wedge (m2_subset_1 \ np_2 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_2 \ k5_numbers) \wedge (m1_subset_1 \ np_2 \ k1_numbers)) \end{aligned} \quad (2)$$

Assume the following.

$$\neg v1_xboole_0 \ np_2 \quad (3)$$

Assume the following.

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

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 \ X0) \wedge ((v4_relat_1 \ X0 \ k5_numbers) \wedge ((v5_relat_1 \\ & \ X0 \ (u1_compos_1 \ k1_ami_3)) \wedge ((v1_funct_1 \ X0) \wedge (v1_partfun1 \ X0 \\ & \ k5_numbers)))))) \Rightarrow (\forall X1. (m2_subset_1 \ X1 \ k1_numbers \ k5_numbers) \Rightarrow \\ & (\forall X2. (m2_subset_1 \ X2 \ k1_numbers \ k5_numbers) \Rightarrow (\forall X3. \\ & ((v1_relat_1 \ X3) \wedge ((v4_relat_1 \ X3 \ (u1_struct_0 \ k1_ami_3)) \wedge ((\\ & \ v1_funct_1 \ X3) \wedge ((v5_funct_1 \ X3 \ (k2_memstr_0 \ np_2 \ k1_ami_3)) \wedge \\ & \ (v1_partfun1 \ X3 \ (u1_struct_0 \ k1_ami_3)))))) \Rightarrow (\forall X4. ((v1_ami_2 \\ & \ X4) \wedge (m1_subset_1 \ X4 \ (u1_struct_0 \ k1_ami_3))) \Rightarrow (\forall X5. ((\\ & \ v1_ami_2 \ X5) \wedge (m1_subset_1 \ X5 \ (u1_struct_0 \ k1_ami_3))) \Rightarrow ((k5_memstr_0 \\ & \ np_2 \ k1_ami_3 \ (k5_extpro_1 \ np_2 \ k1_ami_3 \ X0 \ X3 \ X1) = X2) \Rightarrow (((k3_compos_1 \\ & \ k1_ami_3 \ X0 \ X2 \neq k2_ami_3 \ X4 \ X5) \wedge ((k3_compos_1 \ k1_ami_3 \ X0 \ X2 \neq k3_ami_3 \\ & \ X4 \ X5) \wedge ((k3_compos_1 \ k1_ami_3 \ X0 \ X2 \neq k4_ami_3 \ X4 \ X5) \wedge ((k3_compos_1 \\ & \ k1_ami_3 \ X0 \ X2 \neq k5_ami_3 \ X4 \ X5) \wedge (\neg (X4 \neq X5) \wedge (k3_compos_1 \ k1_ami_3 \\ & \ X0 \ X2 = k6_ami_3 \ X4 \ X5)))))) \vee ((k5_extpro_1 \ np_2 \ k1_ami_3 \ X0 \ X3 \ (\\ & \ k2_nat_1 \ X1 \ np_1) = k2_extpro_1 \ np_2 \ k1_ami_3 \ (k3_compos_1 \ k1_ami_3 \\ & \ X0 \ X2) \ (k5_extpro_1 \ np_2 \ k1_ami_3 \ X0 \ X3 \ X1)) \wedge (k5_memstr_0 \ np_2 \\ & \ k1_ami_3 \ (k5_extpro_1 \ np_2 \ k1_ami_3 \ X0 \ X3 \ (k2_nat_1 \ X1 \ np_1)) = \\ & \ k2_nat_1 \ X2 \ np_1)))))) \end{aligned} \quad (6)$$

Assume the following.

$$(\neg v1_xboole_0 \ k4_ordinal1) \wedge (v3_ordinal1 \ k4_ordinal1) \quad (7)$$

Assume the following.

$$(v3_memstr_0 \ k1_ami_3 \ np_2) \wedge (v1_extpro_1 \ k1_ami_3 \ np_2) \quad (8)$$

Assume the following.

$$(v2_memstr_0 \ k1_ami_3 \ np_2) \wedge (v1_extpro_1 \ k1_ami_3 \ np_2) \quad (9)$$

Assume the following.

$$\neg v1_xboole_0 \ k1_numbers \quad (10)$$

Assume the following.

$$(\neg v2_struct_0 \ k1_ami_3) \wedge (v1_extpro_1 \ k1_ami_3 \ np_2) \quad (11)$$

Assume the following.

$$m1_subset_1 \ k5_numbers \ (k1_zfmisc_1 \ k1_numbers) \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. ((\neg v1_setfam_1 \\ & X0) \wedge (((\neg v2_struct_0 \ X1) \wedge ((v2_memstr_0 \ X1 \ X0) \wedge ((v3_memstr_0 \\ & X1 \ X0) \wedge (l1_extpro_1 \ X1 \ X0)))) \wedge (((v1_relat_1 \ X2) \wedge ((v4_relat_1 \\ & X2 \ k5_numbers) \wedge ((v5_relat_1 \ X2 \ (u1_compos_1 \ X1)) \wedge (v1_funct_1 \\ & X2)))) \wedge (((v1_relat_1 \ X3) \wedge ((v4_relat_1 \ X3 \ (u1_struct_0 \ X1)) \wedge \\ & ((v1_funct_1 \ X3) \wedge ((v5_funct_1 \ X3 \ (k2_memstr_0 \ X0 \ X1)) \wedge (v1_partfun1 \\ & X3 \ (u1_struct_0 \ X1)))))) \wedge (v7_ordinal1 \ X4)))) \Rightarrow ((v1_relat_1 \\ & (k5_extpro_1 \ X0 \ X1 \ X2 \ X3 \ X4)) \wedge ((v4_relat_1 \ (k5_extpro_1 \ X0 \ X1 \ X2 \\ & X3 \ X4) \ (u1_struct_0 \ X1)) \wedge ((v1_funct_1 \ (k5_extpro_1 \ X0 \ X1 \ X2 \ X3 \ X4)) \wedge \\ & ((v5_funct_1 \ (k5_extpro_1 \ X0 \ X1 \ X2 \ X3 \ X4) \ (k2_memstr_0 \ X0 \ X1)) \wedge (\\ & v1_partfun1 \ (k5_extpro_1 \ X0 \ X1 \ X2 \ X3 \ X4) \ (u1_struct_0 \ X1)))))) \end{aligned} \quad (13)$$

Assume the following.

$$(v1_extpro_1 \ k1_ami_3 \ np_2) \wedge (l1_extpro_1 \ k1_ami_3 \ np_2) \quad (14)$$

Assume the following.

$$\forall X0. (m1_subset_1 \ X0 \ k4_ordinal1) \Rightarrow (v7_ordinal1 \ X0) \quad (15)$$

Assume the following.

$$\forall X0. ((\neg v1_xboole_0 \ X0) \wedge (v7_ordinal1 \ X0)) \Rightarrow ((\neg v1_xboole_0 \ X0) \wedge ((v7_ordinal1 \ X0) \wedge (\neg v1_setfam_1 \ X0))) \quad (16)$$

Theorem 1

$$\begin{aligned}
& \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v5_relat_1 \\
& X0 (u1_compos_1 k1_ami_3)) \wedge ((v1_funct_1 X0) \wedge (v1_partfun1 X0 \\
& k5_numbers)))))) \Rightarrow (\forall X1.(m2_subset_1 X1 k1_numbers k5_numbers) \Rightarrow \\
& (\forall X2.(m2_subset_1 X2 k1_numbers k5_numbers) \Rightarrow (\forall X3. \\
& ((v1_relat_1 X3) \wedge ((v4_relat_1 X3 (u1_struct_0 k1_ami_3)) \wedge ((\\
& v1_funct_1 X3) \wedge ((v5_funct_1 X3 (k2_memstr_0 np_2 k1_ami_3)) \wedge \\
& (v1_partfun1 X3 (u1_struct_0 k1_ami_3)))))) \Rightarrow (\forall X4.((v1_ami_2 \\
& X4) \wedge (m1_subset_1 X4 (u1_struct_0 k1_ami_3))) \Rightarrow (\forall X5.((\\
& v1_ami_2 X5) \wedge (m1_subset_1 X5 (u1_struct_0 k1_ami_3))) \Rightarrow (((k5_memstr_0 \\
& np_2 k1_ami_3 (k5_extpro_1 np_2 k1_ami_3 X0 X3 X1) = X2) \wedge (k3_compos_1 \\
& k1_ami_3 X0 X2 = k3_ami_3 X4 X5)) \Rightarrow ((k5_memstr_0 np_2 k1_ami_3 (\\
& k5_extpro_1 np_2 k1_ami_3 X0 X3 (k2_nat_1 X1 np_1)) = k2_nat_1 \\
& X2 np_1) \wedge ((k1_funct_1 (k5_extpro_1 np_2 k1_ami_3 X0 X3 (k2_nat_1 \\
& X1 np_1)) X4 = k2_xcmplx_0 (k1_funct_1 (k5_extpro_1 np_2 k1_ami_3 \\
& X0 X3 X1) X4) (k1_funct_1 (k5_extpro_1 np_2 k1_ami_3 X0 X3 X1) X5)) \wedge \\
& (\forall X6.((v1_ami_2 X6) \wedge (m1_subset_1 X6 (u1_struct_0 k1_ami_3))) \Rightarrow \\
& ((X6 \neq X4) \Rightarrow (k1_funct_1 (k5_extpro_1 np_2 k1_ami_3 X0 X3 (k2_nat_1 \\
& X1 np_1)) X6 = k1_funct_1 (k5_extpro_1 np_2 k1_ami_3 X0 X3 X1) X6)))))))))
\end{aligned}$$