

t67_scmpds_6

(TMPsm9jNakaMXwTi2bNGjSrhmsJ2M8hyAuS)

October 27, 2020

Let $v1_ami_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_scmpds_2 : \iota$ be given. Let $v1_int_1 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ 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 $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_afinsq_1 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_scmpds_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k8_scmpds_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_card_1 : \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_scmpds_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_scmpds_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_scmpds_6 : \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $v2_compos_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_2) \wedge (m2_subset_1 \ np_2 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_2 \ k5_numbers) \wedge (m1_subset_1 \ np_2 \ k1_numbers)) \end{aligned} \quad (1)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 \ X0 \ k5_numbers) \wedge (v7_ordinal1 \ X1)) \Rightarrow (k2_nat_1 \ X0 \ X1 = k2_xcmplx_0 \ X0 \ X1) \quad (3)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 (u1_compos_1 k1_scmpds_2)) \Rightarrow (\forall X1. \\
& ((\neg v1_xboole_0 X1) \wedge ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge \\
& ((v5_relat_1 X1 (u1_compos_1 k1_scmpds_2)) \wedge ((v1_funct_1 X1) \wedge \\
& ((v1_finset_1 X1) \wedge (v1_afinsq_1 X1)))))) \Rightarrow (\forall X2. ((\neg v1_xboole_0 \\
& X2) \wedge ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 k5_numbers) \wedge ((v5_relat_1 \\
& X2 (u1_compos_1 k1_scmpds_2)) \wedge ((v1_funct_1 X2) \wedge ((v1_finset_1 \\
& X2) \wedge (v1_afinsq_1 X2)))))) \Rightarrow (\forall X3. ((\neg v1_xboole_0 X3) \wedge \\
& ((v1_relat_1 X3) \wedge ((v4_relat_1 X3 k5_numbers) \wedge ((v5_relat_1 X3 \\
& (u1_compos_1 k1_scmpds_2)) \wedge ((v1_funct_1 X3) \wedge ((v1_finset_1 \\
& X3) \wedge (v1_afinsq_1 X3)))))) \Rightarrow (k1_funct_1 (k1_scmpds_4 (k1_scmpds_4 \\
& (k2_scmpds_4 X0 X1) X2) X3) k6_numbers = X0)))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow ((\neg v1_xboole_0 (k1_scmpds_6 \\
& (k2_nat_1 X0 np_1))) \wedge ((v1_relat_1 (k1_scmpds_6 (k2_nat_1 X0 \\
& np_1))) \wedge ((v4_relat_1 (k1_scmpds_6 (k2_nat_1 X0 np_1)) k5_numbers) \wedge \\
& ((v5_relat_1 (k1_scmpds_6 (k2_nat_1 X0 np_1)) (u1_compos_1 k1_scmpds_2)) \wedge \\
& ((v1_funct_1 (k1_scmpds_6 (k2_nat_1 X0 np_1))) \wedge ((v1_finset_1 \\
& (k1_scmpds_6 (k2_nat_1 X0 np_1))) \wedge ((v1_afinsq_1 (k1_scmpds_6 \\
& (k2_nat_1 X0 np_1))) \wedge (v2_compos_1 (k1_scmpds_6 (k2_nat_1 X0 \\
& np_1)) k1_scmpds_2))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\forall X0. \forall X1. ((v1_int_1 X0) \wedge (v1_int_1 X1)) \Rightarrow (v1_int_1 (k2_xcmplx_0 X0 X1)) \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (((v1_ami_2 X0) \wedge (m1_subset_1 \\
& X0 (u1_struct_0 k1_scmpds_2))) \wedge ((v1_int_1 X1) \wedge (v1_int_1 X2))) \Rightarrow \\
& (m1_subset_1 (k8_scmpds_2 X0 X1 X2) (u1_compos_1 k1_scmpds_2))
\end{aligned} \tag{7}$$

Assume the following.

$$\forall X0.(v1_finset_1 X0) \Rightarrow (m1_subset_1 (k5_card_1 X0) k4_ordinal1) \tag{8}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmpds_2))) \Rightarrow \\
& \quad (\forall X1.(v1_int_1 X1) \Rightarrow (\forall X2.((\neg v1_xboole_0 X2) \wedge ((\\
& \quad v1_relat_1 X2) \wedge ((v4_relat_1 X2 k5_numbers) \wedge ((v5_relat_1 X2 (\\
& \quad u1_compos_1 k1_scmpds_2)) \wedge ((v1_funct_1 X2) \wedge ((v1_finset_1 X2) \wedge \\
& \quad (v1_afinsq_1 X2))))))) \Rightarrow (\forall X3.((\neg v1_xboole_0 X3) \wedge ((v1_relat_1 \\
& \quad X3) \wedge ((v4_relat_1 X3 k5_numbers) \wedge ((v5_relat_1 X3 (u1_compos_1 \\
& \quad k1_scmpds_2)) \wedge ((v1_funct_1 X3) \wedge ((v1_finset_1 X3) \wedge (v1_afinsq_1 \\
& \quad X3))))))) \Rightarrow (k3_scmpds_6 X0 X1 X2 X3 = k1_scmpds_4 (k1_scmpds_4 (\\
& \quad k2_scmpds_4 (k8_scmpds_2 X0 X1 (k2_nat_1 (k5_card_1 X2) np_2)) \\
& \quad X2) (k1_scmpds_6 (k2_nat_1 (k5_card_1 X3) np_1))) X3)))
\end{aligned} \tag{9}$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \tag{10}$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (v1_int_1 X0) \tag{11}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmpds_2))) \Rightarrow \\
& \quad (\forall X1.(v1_int_1 X1) \Rightarrow (\forall X2.((\neg v1_xboole_0 X2) \wedge ((\\
& \quad v1_relat_1 X2) \wedge ((v4_relat_1 X2 k5_numbers) \wedge ((v5_relat_1 X2 (\\
& \quad u1_compos_1 k1_scmpds_2)) \wedge ((v1_funct_1 X2) \wedge ((v1_finset_1 X2) \wedge \\
& \quad (v1_afinsq_1 X2))))))) \Rightarrow (\forall X3.((\neg v1_xboole_0 X3) \wedge ((v1_relat_1 \\
& \quad X3) \wedge ((v4_relat_1 X3 k5_numbers) \wedge ((v5_relat_1 X3 (u1_compos_1 \\
& \quad k1_scmpds_2)) \wedge ((v1_funct_1 X3) \wedge ((v1_finset_1 X3) \wedge (v1_afinsq_1 \\
& \quad X3))))))) \Rightarrow (k1_funct_1 (k3_scmpds_6 X0 X1 X2 X3) k6_numbers = k8_scmpds_2 \\
& \quad X0 X1 (k2_nat_1 (k5_card_1 X2) np_2))))
\end{aligned}$$