

l53_scmpds_6 (TM- SKHAI4JYoSyNQx1eyCMmmKTXPKJDAS133)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_compos_1 : \iota \Rightarrow \iota$ be given. Let $k1_scmpds_2 : \iota$ 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 $v1_funct_1 : \iota \Rightarrow o$ 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 $k1_scmpds_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_scmpds_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 (u1_compos_1 k1_scmpds_2)) \Rightarrow (\forall X1. \\ & ((\neg v1_xboole_0 X1) \wedge ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge \\ & ((v5_relat_1 X1 (u1_compos_1 k1_scmpds_2)) \wedge ((v1_funct_1 X1) \wedge \\ & ((v1_finset_1 X1) \wedge (v1_afinsq_1 X1))))))) \Rightarrow (k1_funct_1 (k2_scmpds_4 \\ & X0 X1) k6_numbers = X0)) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 (u1_compos_1 k1_scmpds_2)) \Rightarrow (\forall X1. \\ & ((\neg v1_xboole_0 X1) \wedge ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge \\ & ((v5_relat_1 X1 (u1_compos_1 k1_scmpds_2)) \wedge ((v1_funct_1 X1) \wedge \\ & ((v1_finset_1 X1) \wedge (v1_afinsq_1 X1))))))) \Rightarrow (\forall X2. ((\neg v1_xboole_0 \\ & X2) \wedge ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 k5_numbers) \wedge ((v5_relat_1 \\ & X2 (u1_compos_1 k1_scmpds_2)) \wedge ((v1_funct_1 X2) \wedge ((v1_finset_1 \\ & X2) \wedge (v1_afinsq_1 X2))))))) \Rightarrow (k1_scmpds_4 (k2_scmpds_4 X0 X1) \\ & X2 = k2_scmpds_4 X0 (k1_scmpds_4 X1 X2))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (((\neg v1_xboole_0 X0) \wedge (v1_relat_1 X0) \wedge \\
& ((v4_relat_1 X0 k5_numbers) \wedge (v5_relat_1 X0 (u1_compos_1 k1_scmpds_2)) \wedge \\
& ((v1_funct_1 X0) \wedge (v1_finset_1 X0) \wedge (v1_afinsq_1 X0)))))) \wedge \\
& ((\neg v1_xboole_0 X1) \wedge (v1_relat_1 X1) \wedge (v4_relat_1 X1 k5_numbers) \wedge \\
& ((v5_relat_1 X1 (u1_compos_1 k1_scmpds_2)) \wedge (v1_funct_1 X1) \wedge \\
& ((v1_finset_1 X1) \wedge (v1_afinsq_1 X1)))))) \Rightarrow ((\neg v1_xboole_0 (\\
& k1_scmpds_4 X0 X1)) \wedge (v1_relat_1 (k1_scmpds_4 X0 X1)) \wedge (v4_relat_1 \\
& (k1_scmpds_4 X0 X1) k5_numbers) \wedge (v5_relat_1 (k1_scmpds_4 X0 \\
& X1) (u1_compos_1 k1_scmpds_2)) \wedge (v1_funct_1 (k1_scmpds_4 X0 \\
& X1)) \wedge (v1_finset_1 (k1_scmpds_4 X0 X1)) \wedge (v1_afinsq_1 (k1_scmpds_4 \\
& X0 X1))))))
\end{aligned} \tag{3}$$

Theorem 1

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