

t14_compos_2

(TMVkMj4g5hMpX5zZruKaPmbXkSVZCuqiRHr)

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Let $v1_amistd_4 : \iota \Rightarrow o$ be given. Let $l1_compos_1 : \iota \Rightarrow o$ be given. Let $v6_compos_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_compos_1 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_card_1 : \iota \Rightarrow \iota$ be given. Let $k2_compos_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_compos_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_5 : \iota$ be given. Let $np_4 : \iota$ 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 $v3_compos_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_compos_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_amistd_4 X0) \wedge (l1_compos_1 X0)) \Rightarrow (\forall X1. \\ & ((v6_compos_0 X1 (u1_compos_1 X0)) \wedge (m1_subset_1 X1 (u1_compos_1 \\ & X0))) \Rightarrow (\forall X2.((v6_compos_0 X2 (u1_compos_1 X0)) \wedge (m1_subset_1 \\ & X2 (u1_compos_1 X0))) \Rightarrow (\forall X3.((v6_compos_0 X3 (u1_compos_1 \\ & X0)) \wedge (m1_subset_1 X3 (u1_compos_1 X0))) \Rightarrow (k5_card_1 (k2_compos_2 \\ & X0 (k3_compos_2 X0 X1 X2) X3) = np_4)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_amistd_4 X0) \wedge (l1_compos_1 X0)) \Rightarrow (\forall X1. \\ & ((v6_compos_0 X1 (u1_compos_1 X0)) \wedge (m1_subset_1 X1 (u1_compos_1 \\ & X0))) \Rightarrow (\forall X2.((\neg v1_xboole_0 X2) \wedge ((v1_relat_1 X2) \wedge ((v4_relat_1 \\ & X2 k5_numbers) \wedge ((v5_relat_1 X2 (u1_compos_1 X0)) \wedge ((v1_funct_1 \\ & X2) \wedge ((v1_finset_1 X2) \wedge ((v1_afinsq_1 X2) \wedge ((v3_compos_1 X2 X0) \wedge \\ & (v4_compos_1 X2 X0)))))))))) \Rightarrow (k5_card_1 (k2_compos_2 X0 X2 X1) = \\ & k2_xcmplx_0 (k5_card_1 X2) np_1))) \end{aligned} \tag{2}$$

Assume the following.

$$k2_xcmplx_0 np_4 np_1 = np_5 \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(((v1_amistd_4 X0)\wedge(l1_compos_1 \\
& X0))\wedge(((v6_compos_0 X1 (u1_compos_1 X0))\wedge(m1_subset_1 X1 (u1_compos_1 \\
& X0))\wedge((v6_compos_0 X2 (u1_compos_1 X0))\wedge(m1_subset_1 X2 (u1_compos_1 \\
& X0))))))\Rightarrow((\neg v1_xboole_0 (k3_compos_2 X0 X1 X2))\wedge((v1_relat_1 \\
& (k3_compos_2 X0 X1 X2))\wedge((v4_relat_1 (k3_compos_2 X0 X1 X2) k5_numbers)\wedge \\
& ((v5_relat_1 (k3_compos_2 X0 X1 X2) (u1_compos_1 X0))\wedge((v1_funct_1 \\
& (k3_compos_2 X0 X1 X2))\wedge((v1_finset_1 (k3_compos_2 X0 X1 X2))\wedge \\
& ((v1_afinsq_1 (k3_compos_2 X0 X1 X2))\wedge((v3_compos_1 (k3_compos_2 \\
& X0 X1 X2) X0)\wedge(v4_compos_1 (k3_compos_2 X0 X1 X2) X0)))))))))) \\
& \tag{4}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(((v1_amistd_4 X0)\wedge(l1_compos_1 \\
& X0))\wedge(((\neg v1_xboole_0 X1)\wedge((v1_relat_1 X1)\wedge((v4_relat_1 X1 k5_numbers)\wedge \\
& ((v5_relat_1 X1 (u1_compos_1 X0))\wedge((v1_funct_1 X1)\wedge((v1_finset_1 \\
& X1)\wedge((v1_afinsq_1 X1)\wedge((v3_compos_1 X1 X0)\wedge(v4_compos_1 X1 X0))))))))))\wedge \\
& ((v6_compos_0 X2 (u1_compos_1 X0))\wedge(m1_subset_1 X2 (u1_compos_1 \\
& X0))))))\Rightarrow((\neg v1_xboole_0 (k2_compos_2 X0 X1 X2))\wedge((v1_relat_1 \\
& (k2_compos_2 X0 X1 X2))\wedge((v4_relat_1 (k2_compos_2 X0 X1 X2) k5_numbers)\wedge \\
& ((v5_relat_1 (k2_compos_2 X0 X1 X2) (u1_compos_1 X0))\wedge((v1_funct_1 \\
& (k2_compos_2 X0 X1 X2))\wedge((v1_finset_1 (k2_compos_2 X0 X1 X2))\wedge \\
& ((v1_afinsq_1 (k2_compos_2 X0 X1 X2))\wedge((v3_compos_1 (k2_compos_2 \\
& X0 X1 X2) X0)\wedge(v4_compos_1 (k2_compos_2 X0 X1 X2) X0)))))))))) \\
& \tag{5}
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((v1_amistd_4 X0)\wedge(l1_compos_1 X0))\Rightarrow(\forall X1. \\
& ((v6_compos_0 X1 (u1_compos_1 X0))\wedge(m1_subset_1 X1 (u1_compos_1 \\
& X0)))\Rightarrow(\forall X2.((v6_compos_0 X2 (u1_compos_1 X0))\wedge(m1_subset_1 \\
& X2 (u1_compos_1 X0)))\Rightarrow(\forall X3.((v6_compos_0 X3 (u1_compos_1 \\
& X0))\wedge(m1_subset_1 X3 (u1_compos_1 X0)))\Rightarrow(\forall X4.((v6_compos_0 \\
& X4 (u1_compos_1 X0))\wedge(m1_subset_1 X4 (u1_compos_1 X0)))\Rightarrow(k5_card_1 \\
& (k2_compos_2 X0 (k2_compos_2 X0 (k3_compos_2 X0 X1 X2) X3) X4) = np_5))))))
\end{aligned}$$