

t60_compos_2 (TMLu-
vTQY7qhCpe5zCmadnAuLrJ5oERUbg8L)

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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 $k1_funct.1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k5_compos.0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k62_valued.1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_amistd.4 X0) \wedge (l1_compos.1 X0)) \Rightarrow (\forall X1. \\ & ((v6_compos.0 X1 (u1_compos.1 X0)) \wedge (m1_subset.1 X1 (u1_compos.1 \\ & X0))) \Rightarrow (\forall X2.((\neg v1_xboole.0 X2) \wedge ((v1_relat.1 X2) \wedge ((v4_relat.1 \\ & X2 k5_numbers) \wedge ((v5_relat.1 X2 (u1_compos.1 X0)) \wedge ((v1_funct.1 \\ & X2) \wedge ((v1_finset.1 X2) \wedge ((v1_afinsq.1 X2) \wedge ((v3_compos.1 X2 X0) \wedge \\ & (v4_compos.1 X2 X0)))))))))) \Rightarrow (k1_funct.1 (k2_compos.2 X0 X2 X1) \\ & (k62_valued.1 X2) = k5_compos.0 (u1_compos.1 X0) X1 (k62_valued.1 \\ & X2))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_amistd.4 X0) \wedge (l1_compos.1 X0)) \Rightarrow (\forall X1. \\ & ((v6_compos.0 X1 (u1_compos.1 X0)) \wedge (m1_subset.1 X1 (u1_compos.1 \\ & X0))) \Rightarrow (\forall X2.((v6_compos.0 X2 (u1_compos.1 X0)) \wedge (m1_subset.1 \\ & X2 (u1_compos.1 X0))) \Rightarrow (\forall X3.((v6_compos.0 X3 (u1_compos.1 \\ & X0)) \wedge (m1_subset.1 X3 (u1_compos.1 X0))) \Rightarrow (\forall X4.((v6_compos.0 \\ & X4 (u1_compos.1 X0)) \wedge (m1_subset.1 X4 (u1_compos.1 X0))) \Rightarrow (\forall X5. \\ & ((v6_compos.0 X5 (u1_compos.1 X0)) \wedge (m1_subset.1 X5 (u1_compos.1 \\ & X0))) \Rightarrow (k62_valued.1 (k2_compos.2 X0 (k2_compos.2 X0 (k2_compos.2 \\ & X0 (k3_compos.2 X0 X1 X2) X3) X4) X5) = np_5)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (((v1_amistd_4 X0) \wedge (l1_compos_1 \\
& X0)) \wedge (((v6_compos_0 X1 (u1_compos_1 X0)) \wedge (m1_subset_1 X1 (u1_compos_1 \\
& X0)) \wedge ((v6_compos_0 X2 (u1_compos_1 X0)) \wedge (m1_subset_1 X2 (u1_compos_1 \\
& X0)))))) \Rightarrow ((\neg v1_xboole_0 (k3_compos_2 X0 X1 X2)) \wedge ((v1_relat_1 \\
& (k3_compos_2 X0 X1 X2)) \wedge ((v4_relat_1 (k3_compos_2 X0 X1 X2) k5_numbers) \wedge \\
& ((v5_relat_1 (k3_compos_2 X0 X1 X2) (u1_compos_1 X0)) \wedge ((v1_funct_1 \\
& (k3_compos_2 X0 X1 X2)) \wedge ((v1_finset_1 (k3_compos_2 X0 X1 X2)) \wedge \\
& ((v1_afinsq_1 (k3_compos_2 X0 X1 X2)) \wedge ((v3_compos_1 (k3_compos_2 \\
& X0 X1 X2) X0) \wedge (v4_compos_1 (k3_compos_2 X0 X1 X2) X0)))))))))) \\
& \tag{3}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (((v1_amistd_4 X0) \wedge (l1_compos_1 \\
& X0)) \wedge (((\neg v1_xboole_0 X1) \wedge ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge \\
& ((v5_relat_1 X1 (u1_compos_1 X0)) \wedge ((v1_funct_1 X1) \wedge ((v1_finset_1 \\
& X1) \wedge ((v1_afinsq_1 X1) \wedge ((v3_compos_1 X1 X0) \wedge (v4_compos_1 X1 X0)))))))))) \wedge \\
& ((v6_compos_0 X2 (u1_compos_1 X0)) \wedge (m1_subset_1 X2 (u1_compos_1 \\
& X0)))))) \Rightarrow ((\neg v1_xboole_0 (k2_compos_2 X0 X1 X2)) \wedge ((v1_relat_1 \\
& (k2_compos_2 X0 X1 X2)) \wedge ((v4_relat_1 (k2_compos_2 X0 X1 X2) k5_numbers) \wedge \\
& ((v5_relat_1 (k2_compos_2 X0 X1 X2) (u1_compos_1 X0)) \wedge ((v1_funct_1 \\
& (k2_compos_2 X0 X1 X2)) \wedge ((v1_finset_1 (k2_compos_2 X0 X1 X2)) \wedge \\
& ((v1_afinsq_1 (k2_compos_2 X0 X1 X2)) \wedge ((v3_compos_1 (k2_compos_2 \\
& X0 X1 X2) X0) \wedge (v4_compos_1 (k2_compos_2 X0 X1 X2) X0)))))))))) \\
& \tag{4}
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0. ((v1_amistd_4 X0) \wedge (l1_compos_1 X0)) \Rightarrow (\forall X1. \\
& ((v6_compos_0 X1 (u1_compos_1 X0)) \wedge (m1_subset_1 X1 (u1_compos_1 \\
& X0))) \Rightarrow (\forall X2. ((v6_compos_0 X2 (u1_compos_1 X0)) \wedge (m1_subset_1 \\
& X2 (u1_compos_1 X0))) \Rightarrow (\forall X3. ((v6_compos_0 X3 (u1_compos_1 \\
& X0)) \wedge (m1_subset_1 X3 (u1_compos_1 X0))) \Rightarrow (\forall X4. ((v6_compos_0 \\
& X4 (u1_compos_1 X0)) \wedge (m1_subset_1 X4 (u1_compos_1 X0))) \Rightarrow (\forall X5. \\
& ((v6_compos_0 X5 (u1_compos_1 X0)) \wedge (m1_subset_1 X5 (u1_compos_1 \\
& X0))) \Rightarrow (\forall X6. ((v6_compos_0 X6 (u1_compos_1 X0)) \wedge (m1_subset_1 \\
& X6 (u1_compos_1 X0))) \Rightarrow (k1_funct_1 (k2_compos_2 X0 (k2_compos_2 \\
& X0 (k2_compos_2 X0 (k2_compos_2 X0 (k3_compos_2 X0 X1 X2) X3) X4) \\
& X5) X6) np_5 = k5_compos_0 (u1_compos_1 X0) X6 np_5))))))
\end{aligned}$$