

t15_scmfsa7b
(TMbZEtAz7gaxrPC3wqxfXPLPqEigvp9YZja)

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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 $k1_scmfsa_2 : \iota$ be given. Let $m1_scmfsa_2 : \iota \Rightarrow o$ be given. Let $r3_scmfsa7b : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k15_scmfsa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_compos_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_compos_1 : \iota \Rightarrow \iota$ be given. Let $k16_scmfsa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_11 : \iota$ be given. Let $np_10 : \iota$ be given. Let $k14_scmfsa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_9 : \iota$ be given. Let $k10_scmfsa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_5 : \iota$ be given. Let $k9_scmfsa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_4 : \iota$ be given. Let $k8_scmfsa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_3 : \iota$ be given. Let $k7_scmfsa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $k6_scmfsa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.(m1_scmfsa_2 X0) \Rightarrow (\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 \\ X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow (k2_compos_0 (u1_compos_1 k1_scmfsa_2) \\ (k16_scmfsa_2 X1 X0) = np_11)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_scmfsa_2 X0) \Rightarrow (\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 \\ X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow (\forall X2.((v1_ami_2 X2) \wedge (\\ m1_subset_1 X2 (u1_struct_0 k1_scmfsa_2))) \Rightarrow (k2_compos_0 (u1_compos_1 \\ k1_scmfsa_2) (k15_scmfsa_2 X2 X1 X0) = np_10))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_scmfsa_2 X0) \Rightarrow (\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 \\ X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow (\forall X2.((v1_ami_2 X2) \wedge (\\ m1_subset_1 X2 (u1_struct_0 k1_scmfsa_2))) \Rightarrow (k2_compos_0 (u1_compos_1 \\ k1_scmfsa_2) (k14_scmfsa_2 X1 X2 X0) = np_9))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\
& (\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\
& (k2_compos_0 (u1_compos_1 k1_scmfsa_2) (k10_scmfsa_2 X0 X1) = \\
& \quad np_5))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\
& (\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\
& (k2_compos_0 (u1_compos_1 k1_scmfsa_2) (k9_scmfsa_2 X0 X1) = np_4))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\
& (\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\
& (k2_compos_0 (u1_compos_1 k1_scmfsa_2) (k8_scmfsa_2 X0 X1) = np_3))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\
& (\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\
& (k2_compos_0 (u1_compos_1 k1_scmfsa_2) (k7_scmfsa_2 X0 X1) = np_2))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\
& (\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\
& (k2_compos_0 (u1_compos_1 k1_scmfsa_2) (k6_scmfsa_2 X0 X1) = np_1))
\end{aligned} \tag{8}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (((v1_ami_2 X0) \wedge (m1_subset_1 \\
& X0 (u1_struct_0 k1_scmfsa_2))) \wedge (((v1_ami_2 X1) \wedge (m1_subset_1 \\
& X1 (u1_struct_0 k1_scmfsa_2))) \wedge (m1_scmfsa_2 X2))) \Rightarrow (m1_subset_1 \\
& (k15_scmfsa_2 X0 X1 X2) (u1_compos_1 k1_scmfsa_2))
\end{aligned} \tag{9}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (m1_subset_1 X0 (u1_compos_1 k1_scmfsa_2)) \Rightarrow (\forall X1. \\
& ((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\
& ((r3_scmfsa7b X0 X1) \Leftrightarrow (\neg \forall X2. ((v1_ami_2 X2) \wedge (m1_subset_1 \\
& X2 (u1_struct_0 k1_scmfsa_2)))) \Rightarrow (\forall X3. (m1_scmfsa_2 X3) \Rightarrow \\
& ((k6_scmfsa_2 X1 X2 \neq X0) \wedge ((k7_scmfsa_2 X1 X2 \neq X0) \wedge ((k8_scmfsa_2 \\
& X1 X2 \neq X0) \wedge ((k9_scmfsa_2 X1 X2 \neq X0) \wedge ((k10_scmfsa_2 X1 X2 \neq X0) \wedge \\
& (k10_scmfsa_2 X2 X1 \neq X0) \wedge ((k14_scmfsa_2 X1 X2 X3 \neq X0) \wedge (k16_scmfsa_2 \\
& X1 X3 \neq X0))))))))))
\end{aligned} \tag{10}$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & (\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & (\forall X2.((v1_ami_2 X2) \wedge (m1_subset_1 X2 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & (\forall X3.(m1_scmfsa_2 X3) \Rightarrow (\neg r3_scmfsa7b (k15_scmfsa_2 X1 \\ & \quad X2 X3) X0)))) \end{aligned}$$