

t80_memstr_0
(TMSbBAZNptQjadZYf5gZfhHzV6rJogULdTN)

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Let $v1_setfam_1 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v5_funct_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v5_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. (\neg v1_setfam_1 X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge \\
& ((v2_memstr_0 X1 X0) \wedge (v3_memstr_0 X1 X0) \wedge (l1_memstr_0 X1 X0)))) \Rightarrow \\
& (\forall X2. ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 (u1_struct_0 X1)) \wedge \\
& ((v1_funct_1 X2) \wedge ((v5_funct_1 X2 (k2_memstr_0 X0 X1)) \wedge (v1_partfun1 \\
& X2 (u1_struct_0 X1)))))) \Rightarrow (\forall X3. ((v1_relat_1 X3) \wedge ((v4_relat_1 \\
& X3 (u1_struct_0 X1)) \wedge ((v1_funct_1 X3) \wedge ((v5_funct_1 X3 (k2_memstr_0 \\
& X0 X1)) \wedge (v1_partfun1 X3 (u1_struct_0 X1)))))) \Rightarrow (((k5_memstr_0 \\
& X0 X1 X2 = k5_memstr_0 X0 X1 X3) \wedge (k6_memstr_0 X0 X1 X2 = k6_memstr_0 \\
& X0 X1 X3)) \Rightarrow (X2 = X3))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (v1_relat_1 X1) \Rightarrow (r1_tarski (k5_relat_1 X1 X0) X1) \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_setfam_1 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\
& ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 X1 X0) \wedge (l1_memstr_0 X1 X0)))) \Rightarrow \\
& (\forall X2.((v1_relat_1 X2) \wedge ((v4_relat_1 X2 (u1_struct_0 X1)) \wedge \\
& ((v1_funct_1 X2) \wedge ((v5_funct_1 X2 (k2_memstr_0 X0 X1)) \wedge (v1_partfun1 \\
& X2 (u1_struct_0 X1)))))) \Rightarrow (\forall X3.((v1_relat_1 X3) \wedge ((v4_relat_1 \\
& X3 (u1_struct_0 X1)) \wedge ((v1_funct_1 X3) \wedge (v5_funct_1 X3 (k2_memstr_0 \\
& X0 X1)))))) \Rightarrow ((r1_tarSKI (k8_memstr_0 X0 X1 X3) X2) \Rightarrow (k5_memstr_0 \\
& X0 X1 X2 = k6_numbers))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_setfam_1 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\
& ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 X1 X0) \wedge (l1_memstr_0 X1 X0)))) \Rightarrow \\
& (\forall X2.((v1_relat_1 X2) \wedge ((v4_relat_1 X2 (u1_struct_0 X1)) \wedge \\
& ((v1_funct_1 X2) \wedge (v5_funct_1 X2 (k2_memstr_0 X0 X1)))))) \Rightarrow (k6_memstr_0 \\
& X0 X1 (k8_memstr_0 X0 X1 X2) = k6_memstr_0 X0 X1 X2))
\end{aligned} \tag{4}$$

Assume the following.

$$k6_numbers = k1_xboole_0 \tag{5}$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (k5_relat_1 X0 (k9_xtuple_0 X0) = X0) \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.((\neg v1_setfam_1 X0) \wedge (((\neg v2_struct_0 \\
& X1) \wedge ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 X1 X0) \wedge (l1_memstr_0 X1 \\
& X0)))) \wedge ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 (u1_struct_0 X1)) \wedge \\
& ((v1_funct_1 X2) \wedge ((v5_funct_1 X2 (k2_memstr_0 X0 X1)) \wedge (v1_partfun1 \\
& X2 (u1_struct_0 X1)))))) \Rightarrow ((v1_relat_1 (k8_memstr_0 X0 X1 X2)) \wedge \\
& ((v4_relat_1 (k8_memstr_0 X0 X1 X2) (u1_struct_0 X1)) \wedge ((v1_funct_1 \\
& (k8_memstr_0 X0 X1 X2)) \wedge ((v5_funct_1 (k8_memstr_0 X0 X1 X2) (k2_memstr_0 \\
& X0 X1)) \wedge (v1_partfun1 (k8_memstr_0 X0 X1 X2) (u1_struct_0 X1))))))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.((\neg v1_setfam_1 X0) \wedge (((\neg v2_struct_0 \\
& X1) \wedge ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 X1 X0) \wedge (l1_memstr_0 X1 \\
& X0)))) \wedge ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 (u1_struct_0 X1)) \wedge \\
& ((v1_funct_1 X2) \wedge (v5_funct_1 X2 (k2_memstr_0 X0 X1)))))) \Rightarrow ((v1_relat_1 \\
& (k8_memstr_0 X0 X1 X2)) \wedge ((v4_relat_1 (k8_memstr_0 X0 X1 X2) (u1_struct_0 \\
& X1)) \wedge ((v1_funct_1 (k8_memstr_0 X0 X1 X2)) \wedge ((v5_funct_1 (k8_memstr_0 \\
& X0 X1 X2) (k2_memstr_0 X0 X1)) \wedge (v5_memstr_0 (k8_memstr_0 X0 X1 X2) \\
& X0 X1 k6_numbers))))))
\end{aligned} \tag{8}$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_setfam_1 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\ & ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 X1 X0) \wedge (l1_memstr_0 X1 X0)))) \Rightarrow \\ & (\forall X2.((v1_relat_1 X2) \wedge ((v4_relat_1 X2 (u1_struct_0 X1)) \wedge \\ & ((v1_funct_1 X2) \wedge ((v5_funct_1 X2 (k2_memstr_0 X0 X1)) \wedge (v1_partfun1 \\ & X2 (u1_struct_0 X1)))))) \Rightarrow (\forall X3.((v1_relat_1 X3) \wedge ((v4_relat_1 \\ & X3 (u1_struct_0 X1)) \wedge ((v1_funct_1 X3) \wedge ((v5_funct_1 X3 (k2_memstr_0 \\ & X0 X1)) \wedge (v1_partfun1 X3 (u1_struct_0 X1)))))) \Rightarrow ((k6_memstr_0 \\ & X0 X1 X2 = k6_memstr_0 X0 X1 X3) \Rightarrow (k8_memstr_0 X0 X1 X2 = k8_memstr_0 \\ & X0 X1 X3)))))) \end{aligned}$$