

t9_scm_comp
(TMM7hSS3qey6arSjxKzS2RW6Q8zCDUCbEeF)

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Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_scm_comp : \iota$ be given. Let $k6_dtconstr : \iota \Rightarrow \iota$ be given. Let $k17_scm_comp : \iota \Rightarrow \iota$ be given. Let $k3_scm_comp : \iota \Rightarrow \iota$ be given. Let $k16_scm_comp : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_dtconstr : \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_dtconstr : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_trees_3 : \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_dtconstr : \iota \Rightarrow \iota$ be given. Let $k1_bintree1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_pre_poly : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k2_scm_comp : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_dtconstr : \iota \Rightarrow o$ be given. Let $l1_lang1 : \iota \Rightarrow o$ be given. Let $v1_lang1 : \iota \Rightarrow o$ be given. Let $v2_dtconstr : \iota \Rightarrow o$ be given. Let $v3_dtconstr : \iota \Rightarrow o$ be given. Let $v3_bintree1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned}
& \exists X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 (k4_dtconstr k1_scm_comp) \\
& k5_numbers) \wedge (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 (k4_dtconstr \\
& k1_scm_comp) k5_numbers)))))) \wedge ((k17_scm_comp (the (\lambda X1 : \iota. \\
& m1_dtconstr X1 (u1_struct_0 k1_scm_comp) (k5_trees_3 (u1_struct_0 \\
& k1_scm_comp)) (k4_dtconstr k1_scm_comp))) = k3_funct_2 (k4_dtconstr \\
& k1_scm_comp) k5_numbers X0 (the (\lambda X1 : \iota. m1_dtconstr X1 (u1_struct_0 \\
& k1_scm_comp) (k5_trees_3 (u1_struct_0 k1_scm_comp)) (k4_dtconstr \\
& k1_scm_comp)))))) \wedge ((\forall X1. (m2_subset_1 X1 (u1_struct_0 k1_scm_comp) \\
& (k6_dtconstr k1_scm_comp)) \Rightarrow (k3_funct_2 (k4_dtconstr k1_scm_comp) \\
& k5_numbers X0 (k3_scm_comp X1) = k16_scm_comp X1)) \wedge (\forall X1. \\
& (m2_subset_1 X1 (u1_struct_0 k1_scm_comp) (k7_dtconstr k1_scm_comp)) \Rightarrow \\
& (\forall X2. (m1_dtconstr X2 (u1_struct_0 k1_scm_comp) (k5_trees_3 \\
& (u1_struct_0 k1_scm_comp)) (k4_dtconstr k1_scm_comp)) \Rightarrow (\forall X3. \\
& (m1_dtconstr X3 (u1_struct_0 k1_scm_comp) (k5_trees_3 (u1_struct_0 \\
& k1_scm_comp)) (k4_dtconstr k1_scm_comp)) \Rightarrow (\forall X4. (m1_subset_1 \\
& X4 (u1_struct_0 k1_scm_comp)) \Rightarrow (\forall X5. (m1_subset_1 X5 (u1_struct_0 \\
& k1_scm_comp)) \Rightarrow (((X4 = k1_bintree1 (u1_struct_0 k1_scm_comp) \\
& X2) \wedge ((X5 = k1_bintree1 (u1_struct_0 k1_scm_comp) X3) \wedge (r1_lang1 \\
& k1_scm_comp X1 (k4_pre_poly (u1_struct_0 k1_scm_comp) X4 X5)))))) \Rightarrow \\
& (\forall X6. (m2_subset_1 X6 k1_numbers k5_numbers) \Rightarrow (\forall X7. \\
& (m2_subset_1 X7 k1_numbers k5_numbers) \Rightarrow (((X6 = k3_funct_2 (k4_dtconstr \\
& k1_scm_comp) k5_numbers X0 X2) \wedge (X7 = k3_funct_2 (k4_dtconstr k1_scm_comp) \\
& k5_numbers X0 X3)) \Rightarrow (k3_funct_2 (k4_dtconstr k1_scm_comp) k5_numbers \\
& X0 (k2_scm_comp X1 X2 X3) = k7_nat_1 X6 X7))))))))))))) \tag{2}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_dtconstr X0) \wedge (l1_lang1 X0))) \Rightarrow \\
& ((\neg v1_xboole_0 (k6_dtconstr X0)) \wedge (m1_subset_1 (k6_dtconstr \\
& X0) (k1_zfmisc_1 (u1_struct_0 X0)))) \tag{3}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (m1_subset_1 X0 (k6_dtconstr k1_scm_comp)) \Rightarrow (m1_dtconstr \\
& (k3_scm_comp X0) (u1_struct_0 k1_scm_comp) (k5_trees_3 (u1_struct_0 \\
& k1_scm_comp)) (k4_dtconstr k1_scm_comp)) \tag{4}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& (\neg v2_struct_0 k1_scm_comp) \wedge ((v1_lang1 k1_scm_comp) \wedge ((v1_dtconstr \\
& k1_scm_comp) \wedge ((v2_dtconstr k1_scm_comp) \wedge ((v3_dtconstr k1_scm_comp) \wedge \\
& ((v3_bintree1 k1_scm_comp) \wedge (l1_lang1 k1_scm_comp)))))) \tag{5}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (m1_subset_1 X0 (k6_dtconstr k1_scm_comp)) \Rightarrow (m2_subset_1 \\
& (k16_scm_comp X0) k1_numbers k5_numbers) \tag{6}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_dtconstr\ X0\ (u1_struct_0\ k1_scm_comp)\ (k5_trees_3 \\
& \quad (u1_struct_0\ k1_scm_comp))\ (k4_dtconstr\ k1_scm_comp)) \Rightarrow (\forall X1. \\
& (m2_subset_1\ X1\ k1_numbers\ k5_numbers) \Rightarrow ((X1 = k17_scm_comp\ X0) \Leftrightarrow \\
& \quad (\exists X2.((v1_funct_1\ X2) \wedge ((v1_funct_2\ X2\ (k4_dtconstr\ k1_scm_comp) \\
& \quad k5_numbers) \wedge (m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k4_dtconstr \\
& \quad k1_scm_comp)\ k5_numbers)))))) \wedge ((X1 = k3_funct_2\ (k4_dtconstr \\
& \quad k1_scm_comp)\ k5_numbers\ X2\ X0) \wedge ((\forall X3.(m2_subset_1\ X3\ (\\
& \quad u1_struct_0\ k1_scm_comp)\ (k6_dtconstr\ k1_scm_comp)) \Rightarrow (k3_funct_2 \\
& \quad (k4_dtconstr\ k1_scm_comp)\ k5_numbers\ X2\ (k3_scm_comp\ X3) = k16_scm_comp \\
& \quad X3)) \wedge (\forall X3.(m2_subset_1\ X3\ (u1_struct_0\ k1_scm_comp)\ (\\
& \quad k7_dtconstr\ k1_scm_comp)) \Rightarrow (\forall X4.(m1_dtconstr\ X4\ (u1_struct_0 \\
& \quad k1_scm_comp)\ (k5_trees_3\ (u1_struct_0\ k1_scm_comp))\ (k4_dtconstr \\
& \quad k1_scm_comp)) \Rightarrow (\forall X5.(m1_dtconstr\ X5\ (u1_struct_0\ k1_scm_comp) \\
& \quad (k5_trees_3\ (u1_struct_0\ k1_scm_comp))\ (k4_dtconstr\ k1_scm_comp)) \Rightarrow \\
& \quad (\forall X6.(m1_subset_1\ X6\ (u1_struct_0\ k1_scm_comp)) \Rightarrow (\forall X7. \\
& \quad (m1_subset_1\ X7\ (u1_struct_0\ k1_scm_comp)) \Rightarrow (((X6 = k1_bintree1 \\
& \quad (u1_struct_0\ k1_scm_comp)\ X4) \wedge ((X7 = k1_bintree1\ (u1_struct_0 \\
& \quad k1_scm_comp)\ X5) \wedge (r1_lang1\ k1_scm_comp\ X3\ (k4_pre_poly\ (u1_struct_0 \\
& \quad k1_scm_comp)\ X6\ X7)))) \Rightarrow (\forall X8.(m2_subset_1\ X8\ k1_numbers \\
& \quad k5_numbers) \Rightarrow (\forall X9.(m2_subset_1\ X9\ k1_numbers\ k5_numbers) \Rightarrow \\
& \quad (((X8 = k3_funct_2\ (k4_dtconstr\ k1_scm_comp)\ k5_numbers\ X2\ X4) \wedge \\
& \quad (X9 = k3_funct_2\ (k4_dtconstr\ k1_scm_comp)\ k5_numbers\ X2\ X5)) \Rightarrow \\
& \quad (k3_funct_2\ (k4_dtconstr\ k1_scm_comp)\ k5_numbers\ X2\ (k2_scm_comp \\
& \quad X3\ X4\ X5) = k7_nat_1\ X8\ X9))))))))))))) \\
& \hspace{15em} (7)
\end{aligned}$$

Assume the following.

$$\forall X0.(v1_xboole_0\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ X0)) \Rightarrow (v1_xboole_0\ X1)) \hspace{10em} (8)$$

Theorem 1

$$\forall X0.(m2_subset_1\ X0\ (u1_struct_0\ k1_scm_comp)\ (k6_dtconstr\ k1_scm_comp)) \Rightarrow (k17_scm_comp\ (k3_scm_comp\ X0) = k16_scm_comp\ X0)$$