

l53_afvect0

(TMTJqxEHEiWkGArp6tTFkn5LfZdSTzPLPrx5)

October 27, 2020

Let $v7_struct_0 : \iota \Rightarrow o$ be given. Let $v1_afvect0 : \iota \Rightarrow o$ be given. Let $l1_analoaf : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k5_afvect0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $g2_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v8_algstr_0 : \iota \Rightarrow o$ be given. Let $k3_afvect0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_afvect0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_analoaf : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_algstr_0 : \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $u2_struct_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v1_funct_1 X1) \wedge ((v1_funct_2 \\ & X1 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k2_zfmisc_1 X0 X0) X0)))) \wedge (m1_subset_1 X2 X0)) \Rightarrow (\forall X3. \\ & \forall X4. \forall X5. (g2_algstr_0 X0 X1 X2 = g2_algstr_0 X3 X4 X5) \Rightarrow \\ & ((X0 = X3) \wedge ((X1 = X4) \wedge (X2 = X5)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. (l2_algstr_0 X0) \Rightarrow ((l2_struct_0 X0) \wedge (l1_algstr_0 X0)) \tag{2}$$

Assume the following.

$$\forall X0. (l1_analoaf X0) \Rightarrow (l1_struct_0 X0) \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v7_struct_0 X0) \wedge ((v1_afvect0 X0) \wedge \\ & (l1_analoaf X0))) \wedge (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow ((v8_algstr_0 \\ & (k5_afvect0 X0 X1)) \wedge (l2_algstr_0 (k5_afvect0 X0 X1))) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v7_struct_0 X0) \wedge ((v1_afvect0 X0) \wedge \\ & (l1_analoaf X0))) \wedge (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow ((v1_funct_1 \\ & (k3_afvect0 X0 X1)) \wedge ((v1_funct_2 (k3_afvect0 X0 X1) (k2_zfmisc_1 \\ & (u1_struct_0 X0) (u1_struct_0 X0)) (u1_struct_0 X0)) \wedge (m1_subset_1 \\ & (k3_afvect0 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 \\ & X0) (u1_struct_0 X0)) (u1_struct_0 X0)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v7_struct_0 X0) \wedge ((v1_afvect0 X0) \wedge (l1_analoaf \\ & X0))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (k5_afvect0 \\ & X0 X1 = g2_algstr_0 (u1_struct_0 X0) (k3_afvect0 X0 X1) X1) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v7_struct_0 X0) \wedge ((v1_afvect0 X0) \wedge (l1_analoaf \\ & X0))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (\forall X2. \\ & ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (k2_zfmisc_1 (u1_struct_0 X0) \\ & (u1_struct_0 X0)) (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) \\ & (u1_struct_0 X0)))))) \Rightarrow ((X2 = k3_afvect0 X0 X1) \Leftrightarrow (\forall X3. (m1_subset_1 \\ & X3 (u1_struct_0 X0))) \Rightarrow (\forall X4. (m1_subset_1 X4 (u1_struct_0 \\ & X0))) \Rightarrow (k5_binop_1 (u1_struct_0 X0) X2 X3 X4 = k2_afvect0 X0 X1 X3 X4)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v7_struct_0 X0) \wedge ((v1_afvect0 X0) \wedge (l1_analoaf \\ & X0))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0))) \Rightarrow (\forall X3. (m1_subset_1 X3 \\ & (u1_struct_0 X0))) \Rightarrow (\forall X4. (m1_subset_1 X4 (u1_struct_0 X0))) \Rightarrow \\ & ((X4 = k2_afvect0 X0 X1 X2 X3) \Leftrightarrow (r2_analoaf X0 X1 X2 X3 X4)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l1_algstr_0 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\ & X0))) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0))) \Rightarrow (k1_algstr_0 \\ & X0 X1 X2 = k5_binop_1 (u1_struct_0 X0) (u1_algstr_0 X0) X1 X2)) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_analoaf X0)) \Rightarrow ((v1_afvect0 \\
& \quad X0) \Leftrightarrow ((\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
& \quad (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\
& \quad (u1_struct_0 X0)) \Rightarrow ((r2_analoaf X0 X1 X2 X3 X3) \Rightarrow (X1 = X2)))))) \wedge ((\\
& \quad \forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 \\
& \quad X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\
& \quad X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow (\forall X5. \\
& \quad (m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (\forall X6.(m1_subset_1 X6 \\
& \quad (u1_struct_0 X0)) \Rightarrow (((r2_analoaf X0 X1 X2 X5 X6) \wedge (r2_analoaf X0 \\
& \quad X3 X4 X5 X6)) \Rightarrow (r2_analoaf X0 X1 X2 X3 X4)))))) \wedge ((\forall X1.(m1_subset_1 \\
& \quad X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\
& \quad X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\exists X4. \\
& \quad (m1_subset_1 X4 (u1_struct_0 X0)) \wedge (r2_analoaf X0 X1 X2 X3 X4)))))) \wedge \\
& \quad ((\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(\\
& \quad m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\
& \quad (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\
& \quad (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (\forall X6.(m1_subset_1 \\
& \quad X6 (u1_struct_0 X0)) \Rightarrow (((r2_analoaf X0 X1 X2 X4 X5) \wedge (r2_analoaf \\
& \quad X0 X1 X3 X4 X6)) \Rightarrow (r2_analoaf X0 X2 X3 X5 X6)))))) \wedge ((\forall X1. \\
& \quad (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\
& \quad (u1_struct_0 X0)) \Rightarrow (\exists X3.(m1_subset_1 X3 (u1_struct_0 X0)) \wedge \\
& \quad (r2_analoaf X0 X1 X3 X3 X2)))) \wedge (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\
& \quad X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
& \quad (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\
& \quad (u1_struct_0 X0)) \Rightarrow ((r2_analoaf X0 X1 X2 X3 X4) \Rightarrow (r2_analoaf X0 X1 \\
& \quad X3 X2 X4)))))))))
\end{aligned} \tag{10}$$

Assume the following.

$$\forall X0.(l1_struct_0 X0) \Rightarrow ((\neg v7_struct_0 X0) \Rightarrow (\neg v2_struct_0 X0)) \tag{11}$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0) \Rightarrow ((v8_algstr_0 X0) \Rightarrow (X0 = g2_algstr_0 \\
(u1_struct_0 X0) (u1_algstr_0 X0) (u2_struct_0 X0))) \tag{12}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v7_struct_0 X0) \wedge ((v1_afvect0 X0) \wedge (l1_analoaf \\
& \quad X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
& \quad (m1_subset_1 X2 (u1_struct_0 (k5_afvect0 X0 X1))) \Rightarrow (\forall X3. \\
& \quad (m1_subset_1 X3 (u1_struct_0 (k5_afvect0 X0 X1))) \Rightarrow (k1_algstr_0 \\
& \quad (k5_afvect0 X0 X1) X2 X3 = k1_algstr_0 (k5_afvect0 X0 X1) X3 X2))))
\end{aligned}$$