

t21_aff_1

(TMTzsyisuuDgqDUXYSEcMq5YAz1bgWeyvia)

October 27, 2020

Let $v7_struct_0 : \iota \Rightarrow o$ be given. Let $v1_diraf : \iota \Rightarrow o$ 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 $r1_aff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_aff_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k2_aff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_aff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v7_struct_0 X0) \wedge ((v1_diraf X0) \wedge (l1_analoaf X0))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow (\forall X5. \\ & (m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (((r1_aff_1 X0 X1 X2 X3) \wedge ((r1_aff_1 \\ & X0 X1 X2 X4) \wedge (r1_aff_1 X0 X1 X2 X5)))) \Rightarrow ((X1 = X2) \vee (r1_aff_1 X0 X3 X4 \\ & X5))))))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1_xboole_0 X1) \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v7_struct_0 X0) \wedge ((v1_diraf X0) \wedge (l1_analoaf X0))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ & X0)) \Rightarrow ((r1_aff_1 X0 X1 X2 X3) \Rightarrow ((r1_aff_1 X0 X1 X3 X2) \wedge ((r1_aff_1 \\ & X0 X2 X1 X3) \wedge ((r1_aff_1 X0 X2 X3 X1) \wedge ((r1_aff_1 X0 X3 X1 X2) \wedge (r1_aff_1 \\ & X0 X3 X2 X1)))))))))) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \tag{4}$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v7_struct_0 X0) \wedge ((v1_diraf X0) \wedge (l1_analoaf X0))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X0)) \Rightarrow ((X1 \in k2_aff_1 X0 X1 X2) \wedge (X2 \in k2_aff_1 X0 X1 \\ & X2)))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v7_struct_0 X0) \wedge ((v1_diraf \\ & X0) \wedge (l1_analoaf X0))) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (m1_subset_1 \\ & X2 (u1_struct_0 X0)))) \Rightarrow (k2_aff_1 X0 X1 X2 = k1_aff_1 X0 X1 X2) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v7_struct_0 X0) \wedge ((v1_diraf X0) \wedge (l1_analoaf X0))) \Rightarrow \\ & (\exists X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \wedge \\ & (v1_aff_1 X1 X0)) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.\exists X1.m1_subset_1 X1 X0 \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v7_struct_0 X0) \wedge ((v1_diraf \\ & X0) \wedge (l1_analoaf X0))) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (m1_subset_1 \\ & X2 (u1_struct_0 X0)))) \Rightarrow (m1_subset_1 (k2_aff_1 X0 X1 X2) (k1_zfmisc_1 \\ & (u1_struct_0 X0))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v7_struct_0 X0) \wedge ((v1_diraf \\ & X0) \wedge (l1_analoaf X0))) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (m1_subset_1 \\ & X2 (u1_struct_0 X0)))) \Rightarrow (m1_subset_1 (k1_aff_1 X0 X1 X2) (k1_zfmisc_1 \\ & (u1_struct_0 X0))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v7_struct_0 X0) \wedge ((v1_diraf X0) \wedge (l1_analoaf X0))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow \\ & ((v1_aff_1 X1 X0) \Leftrightarrow (\exists X2.(m1_subset_1 X2 (u1_struct_0 X0)) \wedge \\ & (\exists X3.(m1_subset_1 X3 (u1_struct_0 X0)) \wedge ((X2 \neq X3) \wedge (X1 = \\ & k2_aff_1 X0 X2 X3)))))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v7_struct_0 X0) \wedge ((v1_diraf X0) \wedge (l1_analoaf X0))) \Rightarrow \\
& (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 \\
& \quad X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 \\
& (u1_struct_0 X0))) \Rightarrow ((X3 = k1_aff_1 X0 X1 X2) \Leftrightarrow (\forall X4.(m1_subset_1 \\
& \quad X4 (u1_struct_0 X0)) \Rightarrow ((X4 \in X3) \Leftrightarrow (r1_aff_1 X0 X1 X2 X4))))))
\end{aligned} \tag{14}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(((\neg v7_struct_0 X0) \wedge ((v1_diraf \\
& X0) \wedge (l1_analoaf X0))) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (m1_subset_1 \\
& \quad X2 (u1_struct_0 X0)))) \Rightarrow (k2_aff_1 X0 X1 X2 = k2_aff_1 X0 X2 X1)
\end{aligned} \tag{15}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v7_struct_0 X0) \wedge ((v1_diraf X0) \wedge (l1_analoaf X0))) \Rightarrow \\
& (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 \\
& \quad X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\
& X0)) \Rightarrow ((r1_aff_1 X0 X1 X2 X3) \Leftrightarrow (\exists X4.(m1_subset_1 X4 (k1_zfmisc_1 \\
& (u1_struct_0 X0))) \wedge ((v1_aff_1 X4 X0) \wedge ((X1 \in X4) \wedge ((X2 \in X4) \wedge (X3 \in \\
& \quad X4))))))))))
\end{aligned}$$