

t13_dirort

(TMNkyA8tnr8ZnwDbaccYfN1dWkKnhLy6tZM)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v2_rlvect_1 : \iota \Rightarrow o$ be given. Let $v3_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_rlvect_1 : \iota \Rightarrow o$ be given. Let $v5_rlvect_1 : \iota \Rightarrow o$ be given. Let $v6_rlvect_1 : \iota \Rightarrow o$ be given. Let $v7_rlvect_1 : \iota \Rightarrow o$ be given. Let $v8_rlvect_1 : \iota \Rightarrow o$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_dirort : \iota \Rightarrow o$ be given. Let $l1_analoaf : \iota \Rightarrow o$ be given. Let $r1_analmetr : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_analort : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_dirort : \iota \Rightarrow o$ be given. Let $v4_dirort : \iota \Rightarrow o$ be given. Let $v3_dirort : \iota \Rightarrow o$ be given. Let $v2_dirort : \iota \Rightarrow o$ be given. Let $r2_analoaf : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_analort : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $g1_analoaf : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_analoaf : \iota \Rightarrow \iota$ be given. Let $v1_analoaf : \iota \Rightarrow o$ be given. Let $k3_analort : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 X0)))))))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4. (m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow (\forall X5. (m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (\forall X6. (m1_subset_1 X6 (u1_struct_0 X0)) \Rightarrow (\forall X7. (m1_subset_1 X7 (u1_struct_0 (k5_analort X0 X5 X6)) \Rightarrow (\forall X8. (m1_subset_1 X8 (u1_struct_0 (k5_analort X0 X5 X6)) \Rightarrow (\forall X9. (m1_subset_1 X9 (u1_struct_0 (k5_analort X0 X5 X6)) \Rightarrow (\forall X10. (m1_subset_1 X10 (u1_struct_0 (k5_analort X0 X5 X6)) \Rightarrow (((X1 = X7) \wedge ((X2 = X8) \wedge ((X3 = X9) \wedge (X4 = X10)))) \Rightarrow ((r2_analoaf (k5_analort X0 X5 X6) X7 X8 X9 X10) \Leftrightarrow (r1_analort X0 X5 X6 X1 X2 X3 X4))))))))))))))
 \end{aligned}
 \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
& ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 \\
& X0)))))))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\
& (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 \\
& X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (\forall X6. \\
& (m1_subset_1 X6 (u1_struct_0 X0)) \Rightarrow (\forall X7.(m1_subset_1 X7 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X8.(m1_subset_1 X8 (u1_struct_0 X0)) \Rightarrow \\
& (\forall X9.(m1_subset_1 X9 (u1_struct_0 X0)) \Rightarrow (\forall X10.(\\
& m1_subset_1 X10 (u1_struct_0 X0)) \Rightarrow (\neg(r1_analmetr X0 X1 X2) \wedge ((\\
& r1_analort X0 X1 X2 X3 X4 X5 X6) \wedge ((r1_analort X0 X1 X2 X7 X8 X5 X6) \wedge (\\
& (r1_analort X0 X1 X2 X7 X8 X9 X10) \wedge ((X7 \neq X8) \wedge ((X5 \neq X6) \wedge (\neg r1_analort \\
& X0 X1 X2 X3 X4 X9 X10)))))))))))))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
& ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 \\
& X0)))))))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\
& (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 \\
& X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (\forall X6. \\
& (m1_subset_1 X6 (u1_struct_0 X0)) \Rightarrow (((r1_analmetr X0 X1 X2) \wedge (r1_analort \\
& X0 X1 X2 X3 X4 X5 X6)) \Rightarrow (r1_analort X0 X1 X2 X5 X6 X4 X3))))))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k2_zfmisc_1 X0 X0) (k2_zfmisc_1 X0 X0))) \Rightarrow (\forall X2. \forall X3. \\
& (g1_analoaf X0 X1 = g1_analoaf X2 X3) \Rightarrow ((X0 = X2) \wedge (X1 = X3)))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_analoaf X0) \Rightarrow (m1_subset_1 (u1_analoaf X0) (k1_zfmisc_1 \\
& (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) \\
& (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 \\ & X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\ & ((v5_rlvect_1 X0) \wedge ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 \\ & X0) \wedge (l1_rlvect_1 X0)))))))))) \wedge ((m1_subset_1 X1 (u1_struct_0 \\ & X0)) \wedge (m1_subset_1 X2 (u1_struct_0 X0))) \Rightarrow ((v1_analoaf (k5_analort \\ & X0 X1 X2)) \wedge (l1_analoaf (k5_analort X0 X1 X2))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v1_dirort X0) \wedge (l1_analoaf X0))) \Rightarrow \\ & ((v5_dirort X0) \Leftrightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\ & (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. (m1_subset_1 \\ & X3 (u1_struct_0 X0)) \Rightarrow (\forall X4. (m1_subset_1 X4 (u1_struct_0 \\ & X0)) \Rightarrow ((r2_analoaf X0 X1 X2 X3 X4) \Rightarrow (r2_analoaf X0 X3 X4 X2 X1))))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ & ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 \\ & X0)))))))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\ & (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k5_analort X0 \\ & X1 X2 = g1_analoaf (u1_struct_0 X0) (k3_analort X0 X1 X2)))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v1_dirort X0) \wedge (l1_analoaf X0))) \Rightarrow \\ & ((v4_dirort X0) \Leftrightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\ & (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. (m1_subset_1 \\ & X3 (u1_struct_0 X0)) \Rightarrow (\forall X4. (m1_subset_1 X4 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X5. (m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (\forall X6. \\ & (m1_subset_1 X6 (u1_struct_0 X0)) \Rightarrow (\forall X7. (m1_subset_1 X7 \\ & (u1_struct_0 X0)) \Rightarrow (\forall X8. (m1_subset_1 X8 (u1_struct_0 X0)) \Rightarrow \\ & (\neg (r2_analoaf X0 X1 X2 X4 X5) \wedge ((r2_analoaf X0 X4 X5 X7 X8) \wedge ((r2_analoaf \\ & X0 X1 X2 X3 X6) \wedge ((X1 \neq X2) \wedge ((X4 \neq X5) \wedge (\neg r2_analoaf X0 X3 X6 X7 X8)))))))))))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_dirort X0) \wedge (l1_analoaf X0))) \Rightarrow \\
& ((v3_dirort X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\
& (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 \\
& X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (\forall X6. \\
& (m1_subset_1 X6 (u1_struct_0 X0)) \Rightarrow (\forall X7.(m1_subset_1 X7 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X8.(m1_subset_1 X8 (u1_struct_0 X0)) \Rightarrow \\
& (\neg(r2_analoaf X0 X1 X2 X4 X5) \wedge ((r2_analoaf X0 X4 X5 X7 X8) \wedge ((r2_analoaf \\
& X0 X3 X6 X7 X8) \wedge ((X7 \neq X8) \wedge ((X4 \neq X5) \wedge (\neg r2_analoaf X0 X1 X2 X3 X6))))))))))))) \\
& (10)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_dirort X0) \wedge (l1_analoaf X0))) \Rightarrow \\
& ((v2_dirort X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\
& (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 \\
& X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (\forall X6. \\
& (m1_subset_1 X6 (u1_struct_0 X0)) \Rightarrow (\forall X7.(m1_subset_1 X7 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X8.(m1_subset_1 X8 (u1_struct_0 X0)) \Rightarrow \\
& (\neg(r2_analoaf X0 X1 X2 X4 X5) \wedge ((r2_analoaf X0 X7 X8 X4 X5) \wedge ((r2_analoaf \\
& X0 X7 X8 X3 X6) \wedge ((X7 \neq X8) \wedge ((X4 \neq X5) \wedge (\neg r2_analoaf X0 X1 X2 X3 X6))))))))))))) \\
& (11)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_analoaf X0) \Rightarrow ((v1_analoaf X0) \Rightarrow (X0 = g1_analoaf \\
& (u1_struct_0 X0) (u1_analoaf X0))) \quad (12)
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
& ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 \\
& X0)))))))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\
& (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.((\\
& \neg v2_struct_0 X3) \wedge ((v1_dirort X3) \wedge (l1_analoaf X3))) \Rightarrow ((r1_analmetr \\
& X0 X1 X2) \wedge (X3 = k5_analort X0 X1 X2)) \Rightarrow ((v5_dirort X3) \wedge ((v4_dirort \\
& X3) \wedge ((v3_dirort X3) \wedge (v2_dirort X3)))))))))
\end{aligned}$$