

t16_euclmetr (TMbF-
FoyfQHa18LiKW3WuWREQ8ZSbTXfixej)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v3_analmetr : \iota \Rightarrow o$ be given. Let $l1_analmetr : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r4_analmetr : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r5_analmetr : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. 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 $r1_aff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_analoaf : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_analmetr : \iota \Rightarrow o$ be given. Let $k3_analmetr : \iota \Rightarrow \iota$ be given. Let $v1_analoaf : \iota \Rightarrow o$ 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.

$$\begin{aligned} & \forall X0.((\neg v7_struct_0 X0) \wedge ((v1_diraf X0) \wedge (l1_analoaf X0))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X0)) \Rightarrow ((r1_aff_1 X0 X1 X1 X2) \wedge ((r1_aff_1 X0 X1 X2 \\ & X2) \wedge (r1_aff_1 X0 X1 X2 X1)))))) \end{aligned} \tag{2}$$

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.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_analmetr X0) \wedge (l1_analmetr \\
& \quad X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
& \quad (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\
& \quad (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\
& \quad (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (\forall X6.(m1_subset_1 \\
& \quad X6 (u1_struct_0 X0)) \Rightarrow (\neg(X1 \neq X2) \wedge ((\neg(\neg(r4_analmetr X0 X1 X2 X3 X4) \wedge \\
& (r4_analmetr X0 X1 X2 X5 X6)) \wedge ((\neg(r4_analmetr X0 X1 X2 X3 X4) \wedge (r4_analmetr \\
& X0 X5 X6 X1 X2)) \wedge ((\neg(r4_analmetr X0 X3 X4 X1 X2) \wedge (r4_analmetr X0 X5 \\
& X6 X1 X2)) \wedge (\neg(r4_analmetr X0 X3 X4 X1 X2) \wedge (r4_analmetr X0 X1 X2 X5 \\
& X6)))))) \wedge (\neg r2_analoaf X0 X3 X4 X5 X6)))))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_analmetr X0) \wedge (l1_analmetr \\
& \quad X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
& \quad (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\
& \quad (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\
& \quad (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (\forall X6.(m1_subset_1 \\
& \quad X6 (u1_struct_0 X0)) \Rightarrow (\neg(X1 \neq X2) \wedge ((\neg(\neg(r2_analoaf X0 X1 X2 X3 X4) \wedge \\
& (r4_analmetr X0 X1 X2 X5 X6)) \wedge ((\neg(r2_analoaf X0 X1 X2 X3 X4) \wedge (r4_analmetr X0 X5 \\
& X6 X1 X2)) \wedge ((\neg(r2_analoaf X0 X1 X2 X5 X6) \wedge (r4_analmetr X0 X3 X4 X1 \\
& X2)) \wedge ((\neg(r2_analoaf X0 X3 X4 X1 X2) \wedge (r4_analmetr X0 X5 X6 X1 X2)) \wedge \\
& ((\neg(r2_analoaf X0 X5 X6 X1 X2) \wedge (r4_analmetr X0 X3 X4 X1 X2)) \wedge ((\neg \\
& r2_analoaf X0 X3 X4 X1 X2) \wedge (r4_analmetr X0 X1 X2 X5 X6)) \wedge (\neg(r2_analoaf \\
& X0 X5 X6 X1 X2) \wedge (r4_analmetr X0 X1 X2 X3 X4))))))))) \wedge (\neg r4_analmetr \\
& \quad X0 X3 X4 X5 X6)))))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_analmetr X0)) \Rightarrow (\forall X1. \\
& \quad (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\
& \quad (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow \\
& \quad (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow (\forall X5.(m1_subset_1 \\
& \quad X5 (u1_struct_0 (k3_analmetr X0))) \Rightarrow (\forall X6.(m1_subset_1 \\
& \quad X6 (u1_struct_0 (k3_analmetr X0))) \Rightarrow (\forall X7.(m1_subset_1 \\
& \quad X7 (u1_struct_0 (k3_analmetr X0))) \Rightarrow (\forall X8.(m1_subset_1 \\
& \quad X8 (u1_struct_0 (k3_analmetr X0))) \Rightarrow (((X1 = X5) \wedge ((X2 = X6) \wedge ((X3 = \\
& X7) \wedge (X4 = X8)))) \Rightarrow ((r2_analoaf X0 X1 X2 X3 X4) \Leftrightarrow (r2_analoaf (k3_analmetr \\
& \quad X0) X5 X6 X7 X8)))))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_analmetr X0)) \Rightarrow (\forall X1. \\
& \quad (m1_subset_1 X1 (u1_struct_0 X0)) \Leftrightarrow (m1_subset_1 X1 (u1_struct_0 \\
& \quad \quad (k3_analmetr X0)))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_analmetr X0) \wedge (l1_analmetr \\ X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\ (u1_struct_0 X0)) \Rightarrow ((\neg r5_analmetr X0 X1 X2 X3) \Rightarrow ((X1 \neq X2) \wedge ((X2 \neq \\ X3) \wedge (X1 \neq X3))))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_analmetr X0) \wedge (l1_analmetr \\ X0))) \Rightarrow ((\neg v7_struct_0 (k3_analmetr X0)) \wedge ((v1_analoaf (k3_analmetr \\ X0)) \wedge (v1_diraf (k3_analmetr X0)))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l1_analmetr X0)) \Rightarrow ((v1_analoaf \\ (k3_analmetr X0)) \wedge (l1_analoaf (k3_analmetr X0))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v7_struct_0 X0) \wedge ((v1_diraf X0) \wedge (l1_analoaf X0))) \Rightarrow \\ (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 \\ X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ X0)) \Rightarrow ((r1_aff_1 X0 X1 X2 X3) \Leftrightarrow (r2_analoaf X0 X1 X2 X1 X3)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l1_analmetr X0)) \Rightarrow (\forall X1. \\ (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\ (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow \\ ((r5_analmetr X0 X1 X2 X3) \Leftrightarrow (r2_analoaf X0 X1 X2 X1 X3)))))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_analmetr X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge (v3_analmetr \\ X0)) \Rightarrow ((\neg v2_struct_0 X0) \wedge (v2_analmetr X0))) \end{aligned} \quad (13)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_analmetr X0) \wedge (l1_analmetr \\ X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\ (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\ (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (\forall X6.(m1_subset_1 \\ X6 (u1_struct_0 X0)) \Rightarrow (((r4_analmetr X0 X1 X2 X1 X3) \wedge ((r4_analmetr \\ X0 X1 X4 X1 X5) \wedge ((r4_analmetr X0 X1 X4 X1 X6) \wedge ((r4_analmetr X0 X2 X4 \\ X3 X5) \wedge (r4_analmetr X0 X2 X4 X3 X6)))))) \Rightarrow ((r5_analmetr X0 X1 X2 X4) \vee \\ ((X1 = X3) \vee (X5 = X6)))))))))) \end{aligned}$$