

t25_topalg_1 (TMNoKmJdb-
bLg1E1MYjv4EfnUAfREJ9LnRf3)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_borsuk_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_borsuk_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_borsuk_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_borsuk_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_borsuk_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_topmetr : \iota$ 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 $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_borsuk_2 X3 \\ & X0 X1 X2) \Rightarrow (\forall X4.(m1_borsuk_2 X4 X0 X1 X2) \Rightarrow (\forall X5.(m1_borsuk_2 \\ & X5 X0 X1 X2) \Rightarrow (((r3_borsuk_2 X0 X1 X2 X3 X4) \wedge (r3_borsuk_2 X0 X1 X2 X4 \\ & X5)) \Rightarrow (r3_borsuk_2 X0 X1 X2 X3 X5)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((r1_borsuk_6 X0 X1 X2) \Rightarrow (\forall X3. \\ & (m1_borsuk_2 X3 X0 X1 X2) \Rightarrow (r2_funct_2 (u1_struct_0 k5_topmetr) \\ & (u1_struct_0 X0) X3 (k2_borsuk_2 X0 X2 X1 (k2_borsuk_2 X0 X1 X2 X3)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\
& \quad X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
& \quad (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\
& \quad (u1_struct_0 X0)) \Rightarrow (((r1_borsuk_6 X0 X1 X2) \wedge (r1_borsuk_6 X0 X3 \\
& \quad X1)) \Rightarrow (\forall X4.(m1_borsuk_2 X4 X0 X1 X2) \Rightarrow (\forall X5.(m1_borsuk_2 \\
& \quad X5 X0 X1 X2) \Rightarrow (\forall X6.(m1_borsuk_2 X6 X0 X3 X1) \Rightarrow ((r3_borsuk_2 \\
& \quad X0 X1 X2 X4 X5) \Rightarrow (r3_borsuk_2 X0 X1 X2 X4 (k1_borsuk_2 X0 X1 X1 X2 (k1_borsuk_2 \\
& \quad X0 X1 X3 X1 (k2_borsuk_2 X0 X3 X1 X6) X6) X5)))))))))) \\
& \hspace{15em} (3)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(((\neg v2_struct_0 \\
& \quad X0) \wedge (l1_pre_topc X0)) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge ((\\
& \quad m1_subset_1 X2 (u1_struct_0 X0)) \wedge ((m1_borsuk_2 X3 X0 X1 X2) \wedge (m1_borsuk_2 \\
& \quad X4 X0 X1 X2)))) \Rightarrow ((r3_borsuk_2 X0 X1 X2 X3 X4) \Rightarrow (r3_borsuk_2 X0 X1 \\
& \quad X2 X4 X3)) \\
& \hspace{15em} (4)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0) \wedge ((v2_pre_topc \\
& \quad X0) \wedge (l1_pre_topc X0))) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (\\
& \quad m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow ((r1_borsuk_6 X0 X1 X2) \Rightarrow (r1_borsuk_6 \\
& \quad X0 X2 X1)) \\
& \hspace{15em} (5)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.(((v1_funct_1 X2) \wedge \\
& \quad ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& \quad X0 X1)))) \wedge ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X0 X1) \wedge (m1_subset_1 \\
& \quad X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow ((r2_funct_2 X0 X1 X2 \\
& \quad X3) \Leftrightarrow (X2 = X3)) \\
& \hspace{15em} (6)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(((l1_pre_topc X0) \wedge ((m1_subset_1 \\
& \quad X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (\forall X3. \\
& \quad (m1_borsuk_2 X3 X0 X1 X2) \Rightarrow ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 (u1_struct_0 \\
& \quad k5_topmetr) (u1_struct_0 X0)) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (\\
& \quad k2_zfmisc_1 (u1_struct_0 k5_topmetr) (u1_struct_0 X0)))))) \\
& \hspace{15em} (7)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.(((\neg v2_struct_0 \\
& \quad X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \wedge ((m1_subset_1 X1 (\\
& \quad u1_struct_0 X0)) \wedge ((m1_subset_1 X2 (u1_struct_0 X0)) \wedge (m1_borsuk_2 \\
& \quad X3 X0 X1 X2)))) \Rightarrow (m1_borsuk_2 (k2_borsuk_2 X0 X1 X2 X3) X0 X2 X1) \\
& \hspace{15em} (8)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\
& (((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc X0))) \wedge \\
& (m1_subset_1 X1 (u1_struct_0 X0)) \wedge ((m1_subset_1 X2 (u1_struct_0 \\
& X0)) \wedge ((m1_subset_1 X3 (u1_struct_0 X0)) \wedge ((m1_borsuk_2 X4 X0 X1 \\
& X2) \wedge (m1_borsuk_2 X5 X0 X2 X3)))))) \Rightarrow (m1_borsuk_2 (k1_borsuk_2 \\
& X0 X1 X2 X3 X4 X5) X0 X1 X3)
\end{aligned} \tag{9}$$

Theorem 1

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\
& X0))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
& (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. (m1_subset_1 X3 \\
& (u1_struct_0 X0)) \Rightarrow (((r1_borsuk_6 X0 X1 X2) \wedge (r1_borsuk_6 X0 X1 \\
& X3)) \Rightarrow (\forall X4. (m1_borsuk_2 X4 X0 X1 X2) \Rightarrow (\forall X5. (m1_borsuk_2 \\
& X5 X0 X1 X2) \Rightarrow (\forall X6. (m1_borsuk_2 X6 X0 X1 X3) \Rightarrow ((r3_borsuk_2 \\
& X0 X1 X2 X4 X5) \Rightarrow (r3_borsuk_2 X0 X1 X2 X4 (k1_borsuk_2 X0 X1 X1 X2 (k1_borsuk_2 \\
& X0 X1 X3 X1 X6 (k2_borsuk_2 X0 X1 X3 X6)) X5))))))))))
\end{aligned}$$