

t39_topalg_1

(TMaDFY1xAtzCzEGFk18SCM3JJW9w6DsWc5q)

October 27, 2020

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 $k2_borsuk_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_borsuk_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_borsuk_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\ & (u1_struct_0 X0)) \Rightarrow (((r1_borsuk_6 X0 X1 X2) \wedge (r1_borsuk_6 X0 X1 \\ & X3)) \Rightarrow (\forall X4.(m1_borsuk_2 X4 X0 X1 X2) \Rightarrow (\forall X5.(m1_borsuk_2 \\ & X5 X0 X1 X2) \Rightarrow (\forall X6.(m1_borsuk_2 X6 X0 X1 X3) \Rightarrow ((r3_borsuk_2 \\ & X0 X1 X2 X4 X5) \Rightarrow (r3_borsuk_2 X0 X1 X2 X4 (k1_borsuk_2 X0 X1 X1 X2 (k1_borsuk_2 \\ & X0 X1 X3 X1 X6 (k2_borsuk_2 X0 X1 X3 X6) X5)))))))))) \\ & \hspace{15em} (1) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\ & (u1_struct_0 X0)) \Rightarrow (((r1_borsuk_6 X0 X1 X2) \wedge (r1_borsuk_6 X0 X2 \\ & X3)) \Rightarrow (\forall X4.(m1_borsuk_2 X4 X0 X1 X2) \Rightarrow (\forall X5.(m1_borsuk_2 \\ & X5 X0 X1 X2) \Rightarrow (\forall X6.(m1_borsuk_2 X6 X0 X2 X3) \Rightarrow ((r3_borsuk_2 \\ & X0 X1 X2 X4 X5) \Rightarrow (r3_borsuk_2 X0 X1 X2 X4 (k1_borsuk_2 X0 X1 X3 X2 (k1_borsuk_2 \\ & X0 X1 X2 X3 X5 X6) (k2_borsuk_2 X0 X2 X3 X6)))))))))) \\ & \hspace{15em} (2) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_borsuk_2 X3 \\ & X0 X1 X2) \Rightarrow ((r2_borsuk_2 X0 X1 X2) \Rightarrow (r3_borsuk_2 X0 X1 X2 X3 X3)))) \\ & \hspace{15em} (3) \end{aligned}$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0\ X0)\wedge((v2_pre_topc \\ & X0)\wedge(l1_pre_topc\ X0))\wedge((m1_subset_1\ X1\ (u1_struct_0\ X0))\wedge(\\ & m1_subset_1\ X2\ (u1_struct_0\ X0))))\Rightarrow((r2_borsuk_2\ X0\ X1\ X2)\Leftrightarrow(r1_borsuk_2 \\ & X0\ X1\ X2)) \end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0\ X0)\wedge((v2_pre_topc \\ & X0)\wedge(l1_pre_topc\ X0))\wedge((m1_subset_1\ X1\ (u1_struct_0\ X0))\wedge(\\ & m1_subset_1\ X2\ (u1_struct_0\ X0))))\Rightarrow((r1_borsuk_6\ X0\ X1\ X2)\Leftrightarrow(r1_borsuk_2 \\ & X0\ X1\ X2)) \end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((\neg v2_struct_0 \\ & X0)\wedge((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0))\wedge((m1_subset_1\ X1\ (\\ & u1_struct_0\ X0))\wedge((m1_subset_1\ X2\ (u1_struct_0\ X0))\wedge(m1_borsuk_2 \\ & X3\ X0\ X1\ X2))))\Rightarrow(m1_borsuk_2\ (k2_borsuk_2\ X0\ X1\ X2\ X3)\ X0\ X2\ X1) \end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & (((\neg v2_struct_0\ X0)\wedge((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0))\wedge(\\ & (m1_subset_1\ X1\ (u1_struct_0\ X0))\wedge((m1_subset_1\ X2\ (u1_struct_0 \\ & X0))\wedge((m1_subset_1\ X3\ (u1_struct_0\ X0))\wedge((m1_borsuk_2\ X4\ X0\ X1 \\ & X2)\wedge(m1_borsuk_2\ X5\ X0\ X2\ X3))))))\Rightarrow(m1_borsuk_2\ (k1_borsuk_2 \\ & X0\ X1\ X2\ X3\ X4\ X5)\ X0\ X1\ X3) \end{aligned} \tag{8}$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\ & (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\ & (((r1_borsuk_6 X0 X1 X2) \wedge ((r1_borsuk_6 X0 X1 X3) \wedge (r1_borsuk_6 \\ & X0 X3 X4))) \Rightarrow (\forall X5.(m1_borsuk_2 X5 X0 X1 X2) \Rightarrow (\forall X6.(\\ & m1_borsuk_2 X6 X0 X3 X4) \Rightarrow (\forall X7.(m1_borsuk_2 X7 X0 X1 X3) \Rightarrow (\\ & r3_borsuk_2 X0 X1 X3 (k1_borsuk_2 X0 X1 X4 X3 (k1_borsuk_2 X0 X1 X3 \\ & X4 (k1_borsuk_2 X0 X1 X1 X3 (k1_borsuk_2 X0 X1 X2 X1 X5 (k2_borsuk_2 \\ & X0 X1 X2 X5)) X7) X6) (k2_borsuk_2 X0 X3 X4 X6)) X7)))))))))) \end{aligned}$$