

t34_midsp_2

(TMZhz8wFVZPUxyGBHpajMDQ1z63GbDHmU3c)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_midsp_1 : \iota \Rightarrow o$ be given. Let $l1_midsp_1 : \iota \Rightarrow o$ be given. Let $v4_midsp_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_midsp_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k10_midsp_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_midsp_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_midsp_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_midsp_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_midsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_midsp_1 X0) \wedge (l1_midsp_1 X0))) \Rightarrow (\forall X1. ((v4_midsp_2 X1 X0) \wedge (l1_midsp_2 X1 X0)) \Rightarrow (\forall X2. \\
 & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. (m1_subset_1 X3 \\
 & (u1_struct_0 X0)) \Rightarrow (\forall X4. (m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\
 & (\forall X5. (m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (\forall X6. (m1_subset_1 \\
 & X6 (u1_struct_0 (u1_midsp_2 X0 X1))) \Rightarrow ((k9_midsp_2 X0 X1 X2 X2 = k11_midsp_2 \\
 & X0 X1) \wedge ((k9_midsp_2 X0 X1 X2 X3 = k11_midsp_2 X0 X1) \Rightarrow (X2 = X3)) \wedge (\\
 & (k9_midsp_2 X0 X1 X2 X3 = k4_algstr_0 (u1_midsp_2 X0 X1) (k9_midsp_2 \\
 & X0 X1 X3 X2)) \wedge ((k9_midsp_2 X0 X1 X2 X3 = k9_midsp_2 X0 X1 X4 X5) \Rightarrow (k9_midsp_2 \\
 & X0 X1 X3 X2 = k9_midsp_2 X0 X1 X5 X4)) \wedge ((\forall X7. (m1_subset_1 X7 \\
 & (u1_struct_0 X0)) \Rightarrow (\forall X8. (m1_subset_1 X8 (u1_struct_0 (\\
 & u1_midsp_2 X0 X1))) \Rightarrow (\exists X9. (m1_subset_1 X9 (u1_struct_0 \\
 & X0)) \wedge (k9_midsp_2 X0 X1 X9 X7 = X8)))) \wedge ((k9_midsp_2 X0 X1 X3 X2 = k9_midsp_2 \\
 & X0 X1 X4 X2) \Rightarrow (X3 = X4)) \wedge ((k3_midsp_1 X0 X2 X3 = X4) \Rightarrow (k9_midsp_2 X0 \\
 & X1 X2 X4 = k9_midsp_2 X0 X1 X4 X3)) \wedge ((k9_midsp_2 X0 X1 X2 X4 = k9_midsp_2 \\
 & X0 X1 X4 X3) \Rightarrow (k3_midsp_1 X0 X2 X3 = X4)) \wedge ((k3_midsp_1 X0 X2 X3 = k3_midsp_1 \\
 & X0 X4 X5) \Rightarrow (k9_midsp_2 X0 X1 X2 X5 = k9_midsp_2 X0 X1 X4 X3)) \wedge ((k9_midsp_2 \\
 & X0 X1 X2 X5 = k9_midsp_2 X0 X1 X4 X3) \Rightarrow (k3_midsp_1 X0 X2 X3 = k3_midsp_1 \\
 & X0 X4 X5)) \wedge ((k9_midsp_2 X0 X1 X2 X3 = X6) \Rightarrow (k10_midsp_2 X0 X1 X2 X6 = \\
 & X3)) \wedge ((k10_midsp_2 X0 X1 X2 X6 = X3) \Rightarrow (k9_midsp_2 X0 X1 X2 X3 = X6))))))))))))) \\
 & (1)
 \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge((v2_midsp_1 X0)\wedge(l1_midsp_1 X0)))\wedge((v4_midsp_2 X1 X0)\wedge(l1_midsp_2 X1 X0)))\Rightarrow(m1_subset_1 (k11_midsp_2 X0 X1) (u1_struct_0 (u1_midsp_2 X0 X1))) \quad (2)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0 X0)\wedge((v2_midsp_1 X0)\wedge(l1_midsp_1 X0)))\Rightarrow(\forall X1.((v4_midsp_2 X1 X0)\wedge(l1_midsp_2 X1 X0))\Rightarrow(\forall X2.(m1_subset_1 X2 (u1_struct_0 X0))\Rightarrow(k10_midsp_2 X0 X1 X2 (k11_midsp_2 X0 X1) = X2)))$$