

t23_midsp_3 (TMKCpnJeRpunZQBn- nRXbrZHNb36cZvyq5z3)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $m2_midsp_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ 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 $u1_midsp_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_midsp_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_midsp_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_midsp_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_midsp_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_midsp_1 : \iota \Rightarrow o$ be given. Let $l1_midsp_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_2 : \iota$ be given. Let $k9_midsp_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.((\neg v2_struct_0 \\
& X1) \wedge ((v2_midsp_1 X1) \wedge (l1_midsp_3 X1 (k2_nat_1 X0 np_2)))) \Rightarrow (\\
& \forall X2.(m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow (\forall X3.(m1_subset_1 \\
& X3 (u1_struct_0 X1)) \Rightarrow (\forall X4.(m2_finseq_2 X4 (u1_struct_0 \\
& X1) (k4_finseq_2 (k2_nat_1 X0 np_1) (u1_struct_0 X1))) \Rightarrow (\forall X5. \\
& ((v4_midsp_2 X5 X1) \wedge (l1_midsp_2 X5 X1)) \Rightarrow (\forall X6.(m1_subset_1 \\
& X6 (u1_struct_0 (u1_midsp_2 X1 X5))) \Rightarrow (\forall X7.(m2_finseq_2 \\
& X7 (u1_struct_0 (u1_midsp_2 X1 X5)) (k4_finseq_2 (k2_nat_1 X0 np_1) \\
& (u1_struct_0 (u1_midsp_2 X1 X5)))) \Rightarrow (((k8_midsp_3 X0 X1 X5 X2 X4 = \\
& X7) \wedge (k9_midsp_2 X1 X5 X2 X3 = X6)) \Rightarrow ((k4_midsp_3 X0 X1 X2 X4 = X3) \Leftrightarrow (\\
& k9_midsp_3 X0 X1 X5 X2 X7 = X6))))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(m2_midsp_3 \\
& X1 X0) \Rightarrow ((\neg v2_struct_0 X1) \wedge ((v2_midsp_1 X1) \wedge (l1_midsp_3 X1 (k2_nat_1 \\
& X0 np_2))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(m2_midsp_3 \\
& X1 X0) \Rightarrow (\forall X2.((v4_midsp_2 X2 X1) \wedge (l1_midsp_2 X2 X1)) \Rightarrow (\forall X3. \\
& (m2_finseq_2 X3 (u1_struct_0 (u1_midsp_2 X1 X2)) (k4_finseq_2 \\
& (k2_nat_1 X0 np_1) (u1_struct_0 (u1_midsp_2 X1 X2)))) \Rightarrow (\forall X4. \\
& (m1_subset_1 X4 (u1_struct_0 (u1_midsp_2 X1 X2))) \Rightarrow ((X4 = k10_midsp_3 \\
& X0 X1 X2 X3) \Leftrightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 X1)) \Rightarrow (X4 = \\
& k9_midsp_3 X0 X1 X2 X5 X3))))))
\end{aligned} \tag{3}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(m2_midsp_3 \\
& X1 X0) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 (u1_struct_0 X1)) \Rightarrow (\forall X4.(m2_finseq_2 X4 \\
& (u1_struct_0 X1) (k4_finseq_2 (k2_nat_1 X0 np_1) (u1_struct_0 \\
& X1))) \Rightarrow (\forall X5.((v4_midsp_2 X5 X1) \wedge (l1_midsp_2 X5 X1)) \Rightarrow (\forall X6. \\
& (m1_subset_1 X6 (u1_struct_0 (u1_midsp_2 X1 X5))) \Rightarrow (\forall X7. \\
& (m2_finseq_2 X7 (u1_struct_0 (u1_midsp_2 X1 X5)) (k4_finseq_2 \\
& (k2_nat_1 X0 np_1) (u1_struct_0 (u1_midsp_2 X1 X5)))) \Rightarrow (((k8_midsp_3 \\
& X0 X1 X5 X2 X4 = X7) \wedge ((k9_midsp_2 X1 X5 X2 X3 = X6) \wedge (k10_midsp_3 X0 X1 \\
& X5 X7 = X6))) \Rightarrow (k4_midsp_3 X0 X1 X2 X4 = X3))))))
\end{aligned}$$