

t43_midsp_1 (TMMLcyDeuyNydgJsZUjT- NuWay5pLQkbcPeu)

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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 $m1_midsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_midsp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k8_midsp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_midsp_1 X0) \wedge (l1_midsp_1 \\ X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\ (u1_struct_0 X0)) \Rightarrow (k7_midsp_1 X0 (k8_midsp_1 X0 X1 X2) (k8_midsp_1 \\ X0 X2 X3) = k8_midsp_1 X0 X1 X3)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_midsp_1 X0) \wedge (l1_midsp_1 \\ X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ (m1_midsp_1 X2 X0) \Rightarrow (\exists X3.(m1_subset_1 X3 (u1_struct_0 X0)) \wedge \\ (X2 = k8_midsp_1 X0 X1 X3)))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \exists X1. m1_subset_1 X1 X0 \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v2_midsp_1 \\ X0) \wedge (l1_midsp_1 X0))) \wedge ((m1_midsp_1 X1 X0) \wedge (m1_midsp_1 X2 X0))) \Rightarrow \\ (m1_midsp_1 (k7_midsp_1 X0 X1 X2) X0) \end{aligned} \quad (4)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_midsp_1 X0) \wedge (l1_midsp_1 \\ X0))) \Rightarrow (\forall X1.(m1_midsp_1 X1 X0) \Rightarrow (\forall X2.(m1_midsp_1 \\ X2 X0) \Rightarrow (\forall X3.(m1_midsp_1 X3 X0) \Rightarrow (k7_midsp_1 X0 (k7_midsp_1 \\ X0 X1 X2) X3 = k7_midsp_1 X0 X1 (k7_midsp_1 X0 X2 X3)))) \end{aligned}$$