

t51_midsp_1
(TMaZBhverWhxpJcZNC9jbC5q7QZcJ1Gq3NJ)

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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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_midsp_1 : \iota \Rightarrow \iota$ be given. Let $k11_midsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_midsp_1 : \iota \Rightarrow \iota$ be given. Let $m1_midsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_midsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_midsp_1 X0) \wedge (l1_midsp_1 X0))) \Rightarrow (\forall X1.(m1_midsp_1 X1 X0) \Leftrightarrow (X1 \in k10_midsp_1 X0)) \quad (1)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_midsp_1 X0) \wedge (l1_midsp_1 X0))) \Rightarrow (\forall X1.(m1_midsp_1 X1 X0) \Rightarrow (\exists X2.(m1_midsp_1 X2 X0) \wedge (k7_midsp_1 X0 X1 X2 = k6_midsp_1 X0))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1.(m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1.(X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (4)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_midsp_1 X0) \wedge (l1_midsp_1 X0))) \Rightarrow (\neg v1_xboole_0 (k10_midsp_1 X0)) \quad (5)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_midsp_1 X0) \wedge (l1_midsp_1 X0))) \Rightarrow (m1_midsp_1 (k6_midsp_1 X0) X0) \quad (6)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_midsp_1 X0) \wedge (l1_midsp_1 \\
& X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k10_midsp_1 X0)) \Rightarrow (\forall X2. \\
& (m1_subset_1 X2 (k10_midsp_1 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\
& (k10_midsp_1 X0)) \Rightarrow ((X3 = k11_midsp_1 X0 X1 X2) \Leftrightarrow (\forall X4.(m1_midsp_1 \\
& X4 X0) \Rightarrow (\forall X5.(m1_midsp_1 X5 X0) \Rightarrow (((X1 = X4) \wedge (X2 = X5)) \Rightarrow (X3 = \\
& k7_midsp_1 X0 X4 X5)))))))))
\end{aligned} \tag{7}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_midsp_1 X0) \wedge (l1_midsp_1 \\
& X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k10_midsp_1 X0)) \Rightarrow (\exists X2. \\
& (m1_subset_1 X2 (k10_midsp_1 X0)) \wedge (k11_midsp_1 X0 X1 X2 = k6_midsp_1 \\
& X0)))
\end{aligned}$$