

l38_midsp_3

(TMUUB11Y7fevy4xV3nSX5B2YA6xysEXwCwr)

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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 $k8_midsp_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_midsp_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_midsp_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_midsp_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k7_midsp_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $m1_finseq_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_midsp_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.((\neg v2_struct_0 \\ & X1) \wedge ((v2_midsp_1 X1) \wedge (l1_midsp_3 X1 (k2_nat_1 X0 np_2)))) \Rightarrow (\\ & \forall X2.(m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow (\forall X3.(m2_finseq_2 \\ & X3 (u1_struct_0 X1) (k4_finseq_2 (k2_nat_1 X0 np_1) (u1_struct_0 \\ & X1))) \Rightarrow (\forall X4.((v4_midsp_2 X4 X1) \wedge (l1_midsp_2 X4 X1)) \Rightarrow (\forall X5. \\ & (m2_finseq_2 X5 (u1_struct_0 (u1_midsp_2 X1 X4)) (k4_finseq_2 \\ & (k2_nat_1 X0 np_1) (u1_struct_0 (u1_midsp_2 X1 X4)))) \Rightarrow ((k8_midsp_3 \\ & X0 X1 X4 X2 X3 = X5) \Leftrightarrow (k7_midsp_3 X0 X1 X4 X2 X5 = X3)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1.(m1_finseq_2 X1 X0) \Rightarrow (\forall X2.(m2_finseq_2 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (3)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k5_numbers)\wedge(v7_ordinal1 X1))\Rightarrow(k2_nat_1 X0 X1 = k2_xcmplx_0 X0 X1) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 X0)\wedge(v7_ordinal1 X1))\Rightarrow(v7_ordinal1 (k2_xcmplx_0 X0 X1)) \quad (6)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k5_numbers)\Rightarrow(\forall X1.(m2_midsp_3 X1 X0)\Rightarrow((\neg v2_struct_0 X1)\wedge((v2_midsp_1 X1)\wedge(l1_midsp_3 X1 (k2_nat_1 X0 np_2)))))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(v7_ordinal1 X0)\Rightarrow(m1_finseq_2 (k4_finseq_2 X0 X1) X1) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((m1_subset_1 X0 k5_numbers)\wedge((m2_midsp_3 X1 X0)\wedge((v4_midsp_2 X2 X1)\wedge(l1_midsp_2 X2 X1))\wedge(m1_subset_1 X3 (k4_finseq_2 (k2_nat_1 X0 np_1) (u1_struct_0 (u1_midsp_2 X1 X2))))))\Rightarrow(m1_subset_1 (k10_midsp_3 X0 X1 X2 X3) (u1_struct_0 (u1_midsp_2 X1 X2)))) \quad (9)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k5_numbers)\Rightarrow(\forall X1.(m2_midsp_3 X1 X0)\Rightarrow(\forall X2.((v4_midsp_2 X2 X1)\wedge(l1_midsp_2 X2 X1))\Rightarrow(\forall X3.(m2_finseq_2 X3 (u1_struct_0 (u1_midsp_2 X1 X2)) (k4_finseq_2 (k2_nat_1 X0 np_1) (u1_struct_0 (u1_midsp_2 X1 X2))))\Rightarrow(\forall X4.(m1_subset_1 X4 (u1_struct_0 (u1_midsp_2 X1 X2))\Rightarrow((X4 = k10_midsp_3 X0 X1 X2 X3)\Leftrightarrow(\forall X5.(m1_subset_1 X5 (u1_struct_0 X1))\Rightarrow(X4 = k9_midsp_3 X0 X1 X2 X5 X3)))))))))) \quad (10)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k5_numbers)\Rightarrow(\forall X1.((\neg v2_struct_0 X1)\wedge((v2_midsp_1 X1)\wedge(l1_midsp_3 X1 (k2_nat_1 X0 np_2))))\Rightarrow(\forall X2.((v4_midsp_2 X2 X1)\wedge(l1_midsp_2 X2 X1))\Rightarrow(\forall X3.(m1_subset_1 X3 (u1_struct_0 X1))\Rightarrow(\forall X4.(m2_finseq_2 X4 (u1_struct_0 (u1_midsp_2 X1 X2)) (k4_finseq_2 (k2_nat_1 X0 np_1) (u1_struct_0 (u1_midsp_2 X1 X2))))\Rightarrow(k9_midsp_3 X0 X1 X2 X3 X4 = k9_midsp_2 X1 X2 X3 (k4_midsp_3 X0 X1 X3 (k7_midsp_3 X0 X1 X2 X3 X4)))))))))) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k5_numbers)\wedge(v7_ordinal1 X1))\Rightarrow(k2_nat_1 X0 X1 = k2_nat_1 X1 X0) \quad (12)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1)\Rightarrow(v7_ordinal1 X0) \quad (13)$$

Theorem 1

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