t26_midsp_2 (TMZc-QAMqvfGv2mADEBUtKpDuYoT2oxQdmC8)

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Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v13\_algstr\_0 : \iota \Rightarrow o$ be given. Let $v2\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v3\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v4\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v2\_midsp\_2 : \iota \Rightarrow o$ be given. Let $l2\_algstr\_0 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $r1\_midsp\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_midsp\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7\_midsp\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $g1\_midsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_midsp\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_midsp\_1 : \iota \Rightarrow o$ be given. Let $l1\_midsp\_1 : \iota \Rightarrow o$ be given. Let $k1\_midsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1\_midsp\_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge ((v13\_algstr\_0\ X1) \wedge ((v2\_rlvect\_1\ X1) \wedge ((v3\_rlvect\_1\ X1) \wedge ((v4\_rlvect\_1\ X1) \wedge ((v2\_midsp\_2\ X1) \wedge (l2\_algstr\_0\ X1)))))))) \Rightarrow (\forall X2.((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ (k2\_zfmisc\_1\ X0\ X0)\ (u1\_struct\_0\ X1)) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ (u1\_struct\_0\ X1)))))) \Rightarrow ((r1\_midsp\_2\ X0\ X1\ X2) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ X0) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ X0) \Rightarrow (\forall X5.(m1\_subset\_1\ X5\ X0) \Rightarrow ((k5\_binop\_1\ X0\ (k6\_midsp\_2\ X0\ X1\ X2)\ X3\ X4 = X5) \Leftrightarrow (k2\_binop\_1\ X0\ X0\ (u1\_struct\_0\ X1)\ X2\ X3\ X5 = k2\_binop\_1\ X0\ X0\ (u1\_struct\_0\ X1)\ X2\ X5\ X4)))))))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_funct\_1\ X1) \wedge ((v1\_funct\_2\ X1\ (k2\_zfmisc\_1\ X0\ X0)\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0))))) \Rightarrow (\forall X2.\forall X3.(g1\_midsp\_1\ X0\ X1 = g1\_midsp\_1\ X2\ X3) \Rightarrow ((X0 = X2) \wedge (X1 = X3))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ (k2\_zfmisc\_1\ X0\ X0)\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0))))))\Rightarrow((\neg v2\_struct\_0\ (g1\_midsp\_1\ X0\ X1))\wedge(v1\_midsp\_1\ (g1\_midsp\_1\ X0\ X1)))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0)\wedge(((\neg v2\_struct\_0\ X1)\wedge((v13\_algstr\_0\ X1)\wedge((v2\_rlvect\_1\ X1)\wedge((v3\_rlvect\_1\ X1)\wedge((v4\_rlvect\_1\ X1)\wedge((v2\_midsp\_2\ X1)\wedge(l2\_algstr\_0\ X1)))))))\wedge((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (k2\_zfmisc\_1\ X0\ X0)\ (u1\_struct\_0\ X1))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ (u1\_struct\_0\ X1))))))))\Rightarrow((v1\_funct\_1\ (k7\_midsp\_2\ X0\ X1\ X2))\wedge((v1\_funct\_2\ (k7\_midsp\_2\ X0\ X1\ X2)\ (k2\_zfmisc\_1\ (u1\_struct\_0\ (g1\_midsp\_1\ X0\ (k6\_midsp\_2\ X0\ X1\ X2)))\ (u1\_struct\_0\ (g1\_midsp\_1\ X0\ (k6\_midsp\_2\ X0\ X1\ X2))))\ (u1\_struct\_0\ X1))\wedge(m1\_subset\_1\ (k7\_midsp\_2\ X0\ X1\ X2)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ (g1\_midsp\_1\ X0\ (k6\_midsp\_2\ X0\ X1\ X2)))\ (u1\_struct\_0\ (g1\_midsp\_1\ X0\ (k6\_midsp\_2\ X0\ X1\ X2))))\ (u1\_struct\_0\ X1)))))) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0)\wedge(((\neg v2\_struct\_0\ X1)\wedge((v13\_algstr\_0\ X1)\wedge((v2\_rlvect\_1\ X1)\wedge((v3\_rlvect\_1\ X1)\wedge((v4\_rlvect\_1\ X1)\wedge((v2\_midsp\_2\ X1)\wedge(l2\_algstr\_0\ X1)))))))\wedge((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (k2\_zfmisc\_1\ X0\ X0)\ (u1\_struct\_0\ X1))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ (u1\_struct\_0\ X1))))))))\Rightarrow((v1\_funct\_1\ (k6\_midsp\_2\ X0\ X1\ X2))\wedge((v1\_funct\_2\ (k6\_midsp\_2\ X0\ X1\ X2)\ (k2\_zfmisc\_1\ X0\ X0)\ X0)\wedge(m1\_subset\_1\ (k6\_midsp\_2\ X0\ X1\ X2)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0))))) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ (k2\_zfmisc\_1\ X0\ X0)\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0))))))\Rightarrow((v1\_midsp\_1\ (g1\_midsp\_1\ X0\ X1))\wedge(l1\_midsp\_1\ (g1\_midsp\_1\ X0\ X1))) \tag{6}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_midsp\_1\ X0))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge(l2\_algstr\_0\ X1))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X1))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X1))))))\Rightarrow((v1\_midsp\_2\ X2\ X0\ X1)\Leftrightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0))\Rightarrow(\forall X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X0))\Rightarrow((k1\_midsp\_1\ X0\ X3\ X4 = X5)\Leftrightarrow(k2\_binop\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ X2\ X3\ X5 = k2\_binop\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ X2\ X5\ X4)))))))) \tag{7}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_midsp\_1\ X0))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(k1\_midsp\_1\ X0\ X1\ X2 = k5\_binop\_1\ (u1\_struct\_0\ X0)\ (u1\_midsp\_1\ X0)\ X1\ X2))) \tag{8}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v13\_algstr\_0\ X1)\wedge((v2\_rlvect\_1\ X1)\wedge((v3\_rlvect\_1\ X1)\wedge((v4\_rlvect\_1\ X1)\wedge((v2\_midsp\_2\ X1)\wedge(l2\_algstr\_0\ X1)))))))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (k2\_zfmisc\_1\ X0\ X0)\ (u1\_struct\_0\ X1))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ (u1\_struct\_0\ X1))))))\Rightarrow(k7\_midsp\_2\ X0\ X1\ X2 = X2))) \tag{9}$$

Assume the following.

$$\forall X0.(l1\_midsp\_1\ X0)\Rightarrow((v1\_midsp\_1\ X0)\Rightarrow(X0 = g1\_midsp\_1\ (u1\_struct\_0\ X0)\ (u1\_midsp\_1\ X0))) \tag{10}$$

Theorem 1

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v13\_algstr\_0\ X1)\wedge((v2\_rlvect\_1\ X1)\wedge((v3\_rlvect\_1\ X1)\wedge((v4\_rlvect\_1\ X1)\wedge((v2\_midsp\_2\ X1)\wedge(l2\_algstr\_0\ X1)))))))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (k2\_zfmisc\_1\ X0\ X0)\ (u1\_struct\_0\ X1))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ (u1\_struct\_0\ X1))))))\Rightarrow((r1\_midsp\_2\ X0\ X1\ X2)\Rightarrow(v1\_midsp\_2\ (k7\_midsp\_2\ X0\ X1\ X2)\ (g1\_midsp\_1\ X0\ (k6\_midsp\_2\ X0\ X1\ X2))\ X1))))$$