t20_midsp_2 (TMMedgBGcamuTQWiy11C6WpfBXBu89AfZs2)

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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 $l1\_midsp\_1 : \iota \Rightarrow o$ 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 $v2\_midsp\_1 : \iota \Rightarrow o$ be given. Let $k1\_midsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (l1\_midsp\_1\ X0)) \Rightarrow (\forall X1.\ (m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X3.((\neg v2\_struct\_0\ X3) \wedge ((v13\_algstr\_0\ X3) \wedge ((v3\_rlvect\_1\ X3) \wedge ((v4\_rlvect\_1\ X3) \wedge (l2\_algstr\_0\ X3))))) \Rightarrow (\forall X4.((v1\_funct\_1\ X4) \wedge ((v1\_funct\_2\ X4\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X3)) \wedge (m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X3)))))) \Rightarrow (\neg (r1\_midsp\_2\ (u1\_struct\_0\ X0)\ X3\ X4) \wedge ((v1\_midsp\_2\ X4\ X0\ X3) \wedge (\forall X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X0)) \Rightarrow (k1\_midsp\_1\ X0\ X5\ X1 \neq X2)))))))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (l1\_midsp\_1\ X0)) \Rightarrow (\forall X1.\ (m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X3.((\neg v2\_struct\_0\ X3) \wedge ((v13\_algstr\_0\ X3) \wedge ((v3\_rlvect\_1\ X3) \wedge ((v4\_rlvect\_1\ X3) \wedge (l2\_algstr\_0\ X3))))) \Rightarrow (\forall X4.((v1\_funct\_1\ X4) \wedge ((v1\_funct\_2\ X4\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X3)) \wedge (m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X3)))))) \Rightarrow (((r1\_midsp\_2\ (u1\_struct\_0\ X0)\ X3\ X4) \wedge (v1\_midsp\_2\ X4\ X0\ X3)) \Rightarrow (k1\_midsp\_1\ X0\ X1\ X2 = k1\_midsp\_1\ X0\ X2\ X1)))))) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l2\_algstr\_0\ X0))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge(l1\_midsp\_1\ X1))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X1))\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X1))\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X1))\ (u1\_struct\_0\ X0))))))\Rightarrow((v1\_midsp\_2\ X3\ X1\ X0)\Rightarrow(k1\_midsp\_1\ X1\ X2\ X2 = X2)))))) \tag{3}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v2\_midsp\_2\ X0)\wedge(l2\_algstr\_0\ X0)))))))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge(l1\_midsp\_1\ X1))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X1))\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X1))\ (u1\_struct\_0\ X0))))))\Rightarrow(((r1\_midsp\_2\ (u1\_struct\_0\ X1)\ X0\ X2)\wedge(v1\_midsp\_2\ X2\ X1\ X0))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X1))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X1))\Rightarrow(\forall X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X1))\Rightarrow(\forall X6.(m1\_subset\_1\ X6\ (u1\_struct\_0\ X1))\Rightarrow(k1\_midsp\_1\ X1\ (k1\_midsp\_1\ X1\ X3\ X4)\ (k1\_midsp\_1\ X1\ X5\ X6) = k1\_midsp\_1\ X1\ (k1\_midsp\_1\ X1\ X3\ X5)\ (k1\_midsp\_1\ X1\ X4\ X6))))))))) \tag{4}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_midsp\_1\ X0))\Rightarrow((v2\_midsp\_1\ X0)\Leftrightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0))\Rightarrow((k1\_midsp\_1\ X0\ X1\ X1 = X1)\wedge((k1\_midsp\_1\ X0\ X1\ X2 = k1\_midsp\_1\ X0\ X2\ X1)\wedge((k1\_midsp\_1\ X0\ (k1\_midsp\_1\ X0\ X1\ X2)\ (k1\_midsp\_1\ X0\ X3\ X4) = k1\_midsp\_1\ X0\ (k1\_midsp\_1\ X0\ X1\ X3)\ (k1\_midsp\_1\ X0\ X2\ X4))\wedge(\exists X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X0))\wedge(k1\_midsp\_1\ X0\ X5\ X1 = X2)))))))))) \tag{5}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v2\_midsp\_2\ X0)\wedge(l2\_algstr\_0\ X0)))))))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge(l1\_midsp\_1\ X1))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X1))\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X1))\ (u1\_struct\_0\ X0))))))\Rightarrow(((r1\_midsp\_2\ (u1\_struct\_0\ X1)\ X0\ X2)\wedge(v1\_midsp\_2\ X2\ X1\ X0))\Rightarrow((\neg v2\_struct\_0\ X1)\wedge((v2\_midsp\_1\ X1)\wedge(l1\_midsp\_1\ X1))))))$$