t5_midsp_2 (TM-Muquq7623WhC3yGTfDWUVgUB1qQcXFVou)

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Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v13\_algstr\_0 : \iota \Rightarrow o$ be given. Let $v3\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v4\_rlvect\_1 : \iota \Rightarrow o$ 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 $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $r1\_midsp\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ X0) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ X0) \Rightarrow (\forall X3.((\neg v2\_struct\_0\ X3) \wedge ((v13\_algstr\_0\ X3) \wedge ((v3\_rlvect\_1\ X3) \wedge ((v4\_rlvect\_1\ X3) \wedge (l2\_algstr\_0\ X3))))) \Rightarrow (\forall X4.((v1\_funct\_1\ X4) \wedge ((v1\_funct\_2\ X4\ (k2\_zfmisc\_1\ X0\ X0)\ (u1\_struct\_0\ X3)) \wedge (m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ (u1\_struct\_0\ X3)))))) \Rightarrow ((r1\_midsp\_2\ X0\ X3\ X4) \Rightarrow (k2\_binop\_1\ X0\ X0\ (u1\_struct\_0\ X3)\ X4\ X1\ X2 = k4\_algstr\_0\ X3\ (k2\_binop\_1\ X0\ X0\ (u1\_struct\_0\ X3)\ X4\ X2\ X1)))))))) \tag{1}$$

Theorem 1

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