

t2\_midsp\_1  
(TMagn1wCV8WQgHaQBGr6yyDEKxMwb5wJVNv)

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Let  $r1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_midsp\_1 : \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $u1\_midsp\_1 : \iota \Rightarrow \iota$  be given. Let  $k9\_funct\_5 : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $g1\_midsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_midsp\_1 : \iota \Rightarrow o$  be given. Let  $l1\_midsp\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$\neg v1\_xboole\_0 \ np\_1 \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ & ((\neg v1\_xboole\_0 \ X1) \wedge (\neg v1\_xboole\_0 \ X3) \wedge (((v1\_funct\_1 \ X4) \wedge ((v1\_funct\_2 \ X4 \ X0 \ X1) \wedge (m1\_subset\_1 \ X4 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ X0 \ X1)))))) \wedge ((v1\_funct\_1 \ X5) \wedge ((v1\_funct\_2 \ X5 \ X2 \ X3) \wedge (m1\_subset\_1 \ X5 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ X2 \ X3)))))) \Rightarrow ((r1\_funct\_2 \ X0 \ X1 \ X2 \ X3 \ X4 \ X5) \Leftrightarrow (X4 = X5)) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1\_funct\_1 \ X1) \wedge ((v1\_funct\_2 \ X1 \ (k2\_zfmisc\_1 \ X0 \ X0) \ X0) \wedge (m1\_subset\_1 \ X1 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ (k2\_zfmisc\_1 \ X0 \ X0) \ X0)))))) \Rightarrow (\forall X2. \forall X3. (g1\_midsp\_1 \ X0 \ X1 = g1\_midsp\_1 \ X2 \ X3) \Rightarrow ((X0 = X2) \wedge (X1 = X3))) \end{aligned} \tag{3}$$

Assume the following.

$$(\neg v2\_struct\_0 \ k2\_midsp\_1) \wedge (v1\_midsp\_1 \ k2\_midsp\_1) \tag{4}$$

Assume the following.

$$\begin{aligned} & (v1\_funct\_1 \ k9\_funct\_5) \wedge ((v1\_funct\_2 \ k9\_funct\_5 \ (k2\_zfmisc\_1 \ np\_1 \ np\_1) \ np\_1) \wedge (m1\_subset\_1 \ k9\_funct\_5 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ (k2\_zfmisc\_1 \ np\_1 \ np\_1) \ np\_1)))) \end{aligned} \tag{5}$$

Assume the following.

$$l1\_midsp\_1 \ k2\_midsp\_1 \tag{6}$$

Assume the following.

$$k2\_midsp\_1 = g1\_midsp\_1 \ np\_1 \ k9\_funct\_5 \tag{7}$$

Assume the following.

$$\forall X0.(l1\_midsp\_1 \ X0) \Rightarrow ((v1\_midsp\_1 \ X0) \Rightarrow (X0 = g1\_midsp\_1 \ (u1\_struct\_0 \ X0) \ (u1\_midsp\_1 \ X0))) \tag{8}$$

**Theorem 1**

$$r1\_funct\_2 \ (k2\_zfmisc\_1 \ (u1\_struct\_0 \ k2\_midsp\_1) \ (u1\_struct\_0 \ k2\_midsp\_1)) \ (u1\_struct\_0 \ k2\_midsp\_1) \ (k2\_zfmisc\_1 \ np\_1 \ np\_1) \ np\_1 \ (u1\_midsp\_1 \ k2\_midsp\_1) \ k9\_funct\_5$$