

t27\_midsp\_2 (TMKy-  
CoUe6gNGf3xhZrDPwvpDfRzW3tHNMTT)

October 27, 2020

Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_midsp\_1 : \iota \Rightarrow o$  be given. Let  $v2\_midsp\_1 : \iota \Rightarrow o$  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  $k15\_midsp\_1 : \iota \Rightarrow \iota$  be given. Let  $k5\_midsp\_2 : \iota \Rightarrow \iota$  be given. Let  $v8\_algstr\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_midsp\_1 X0) \wedge (l1\_midsp\_1 X0))) \Rightarrow (r1\_midsp\_2 (u1\_struct\_0 X0) (k15\_midsp\_1 X0) (k5\_midsp\_2 X0)) \quad (1)$$

Assume the following.

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

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_midsp\_1 X0) \wedge (l1\_midsp\_1 X0))) \Rightarrow ((\neg v2\_struct\_0 (k15\_midsp\_1 X0)) \wedge (v8\_algstr\_0 (k15\_midsp\_1 X0))) \quad (3)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_midsp\_1 X0) \wedge (l1\_midsp\_1 X0))) \Rightarrow ((v1\_funct\_1 (k5\_midsp\_2 X0)) \wedge ((v1\_funct\_2 (k5\_midsp\_2 X0) (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X0)) (u1\_struct\_0 (k15\_midsp\_1 X0))) \wedge (v1\_midsp\_2 (k5\_midsp\_2 X0) X0 (k15\_midsp\_1 X0)))) \quad (4)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_midsp\_1 X0) \wedge (l1\_midsp\_1 X0))) \Rightarrow (v2\_midsp\_2 (k15\_midsp\_1 X0)) \quad (5)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_midsp\_1 X0) \wedge (l1\_midsp\_1 X0))) \Rightarrow ((v13\_algstr\_0 (k15\_midsp\_1 X0)) \wedge ((v2\_rlvect\_1 (k15\_midsp\_1 X0)) \wedge ((v3\_rlvect\_1 (k15\_midsp\_1 X0)) \wedge (v4\_rlvect\_1 (k15\_midsp\_1 X0)))))) \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_midsp\_1 X0) \wedge (l1\_midsp\_1 X0))) \Rightarrow ((v1\_funct\_1 (k5\_midsp\_2 X0)) \wedge ((v1\_funct\_2 (k5\_midsp\_2 X0) (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X0)) (u1\_struct\_0 (k15\_midsp\_1 X0))) \wedge (m1\_subset\_1 (k5\_midsp\_2 X0) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X0)) (u1\_struct\_0 (k15\_midsp\_1 X0))))))) \quad (7)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_midsp\_1 X0) \wedge (l1\_midsp\_1 X0))) \Rightarrow (l2\_algstr\_0 (k15\_midsp\_1 X0)) \quad (8)$$

**Theorem 1**

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