

t64\_zmodul01 (TMRMFBSvn-  
phw4Wf9qEmFD27GDqG16NFJwe8)

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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  $v2\_zmodul01 : \iota \Rightarrow o$  be given. Let  $v3\_zmodul01 : \iota \Rightarrow o$  be given. Let  $v4\_zmodul01 : \iota \Rightarrow o$  be given. Let  $v5\_zmodul01 : \iota \Rightarrow o$  be given. Let  $l1\_zmodul01 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_int\_1 : \iota \Rightarrow o$  be given. Let  $m1\_zmodul01 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_struct\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_zmodul01 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_zmodul01 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\ & X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v2\_zmodul01 X0) \wedge \\ & ((v3\_zmodul01 X0) \wedge ((v4\_zmodul01 X0) \wedge ((v5\_zmodul01 X0) \wedge (l1\_zmodul01 \\ & X0)))))))))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow \\ & (\forall X2. (v1\_int\_1 X2) \Rightarrow (\forall X3. (m1\_zmodul01 X3 X0) \Rightarrow (( \\ & r1\_struct\_0 X3 X1) \Rightarrow (r1\_struct\_0 X3 (k1\_zmodul01 X0 X1 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\ & X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v2\_zmodul01 X0) \wedge \\ & ((v3\_zmodul01 X0) \wedge ((v4\_zmodul01 X0) \wedge ((v5\_zmodul01 X0) \wedge (l1\_zmodul01 \\ & X0)))))))))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow \\ & (\forall X2. (m1\_zmodul01 X2 X0) \Rightarrow ((r1\_struct\_0 X2 X1) \Leftrightarrow (k5\_zmodul01 \\ & X0 X1 X2 = u1\_struct\_0 X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2\_struct\_0 X0) \wedge (l1\_zmodul01 \\ & X0)) \wedge ((m1\_subset\_1 X1 (u1\_struct\_0 X0)) \wedge (v1\_int\_1 X2))) \Rightarrow (m1\_subset\_1 \\ & (k1\_zmodul01 X0 X1 X2) (u1\_struct\_0 X0)) \end{aligned} \quad (3)$$

**Theorem 1**

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge (v13\_algstr\_0 X0) \wedge (v2\_rlvect\_1 \\ & X0) \wedge (v3\_rlvect\_1 X0) \wedge (v4\_rlvect\_1 X0) \wedge (v2\_zmodul01 X0) \wedge \\ & ((v3\_zmodul01 X0) \wedge (v4\_zmodul01 X0) \wedge (v5\_zmodul01 X0) \wedge (l1\_zmodul01 \\ & X0)))))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow \\ & (\forall X2. (v1\_int\_1 X2) \Rightarrow (\forall X3. (m1\_zmodul01 X3 X0) \Rightarrow (( \\ r1\_struct\_0 X3 X1) \Rightarrow (k5\_zmodul01 X0 (k1\_zmodul01 X0 X1 X2) X3 = u1\_struct\_0 \\ & X3)))))) \end{aligned}$$