

# t13\_scmpds\_2 (TMPp- kAT4hGjScvgU8LKiTJqWzB4xBSDu7Wu)

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Let  $v1\_ami\_2 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_scmpds\_2 : \iota$  be given. Let  $k2\_compos\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_compos\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_scmpds\_2 : \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_compos\_0 : \iota \Rightarrow o$  be given. Let  $k4\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k3\_xtuple\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $l1\_compos\_1 : \iota \Rightarrow o$  be given. Let  $v2\_compos\_0 : \iota \Rightarrow o$  be given. Let  $v3\_compos\_0 : \iota \Rightarrow o$  be given. Let  $v5\_compos\_0 : \iota \Rightarrow o$  be given. Let  $l1\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_2 : \iota$  be given. Let  $k1\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k9\_finseq\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v1\_xboole\_0 X0) \wedge (v1\_compos\_0 X0)) \wedge \\ & (m1\_subset\_1 X1 X0)) \Rightarrow (k2\_compos\_0 X0 X1 = k4\_xtuple\_0 X1) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. k4\_xtuple\_0 (k3\_xtuple\_0 X0 \\ & X1 X2) = X0 \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l1\_compos\_1 X0) \Rightarrow ((v1\_compos\_0 (u1\_compos\_1 X0)) \wedge \\ & ((v2\_compos\_0 (u1\_compos\_1 X0)) \wedge ((v3\_compos\_0 (u1\_compos\_1 \\ & X0)) \wedge (v5\_compos\_0 (u1\_compos\_1 X0)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (l1\_extpro\_1 X1 X0) \Rightarrow ((l1\_memstr\_0 X1 X0) \wedge \\ & (l1\_compos\_1 X1)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_ami\_2 X0) \wedge (m1\_subset\_1 X0 (u1\_struct\_0 k1\_scmpds\_2))) \Rightarrow \\ & (m1\_subset\_1 (k4\_scmpds\_2 X0) (u1\_compos\_1 k1\_scmpds\_2)) \end{aligned} \quad (5)$$

Assume the following.

$$(v1\_extpro\_1\ k1\_scmpds\_2\ np\_2) \wedge (l1\_extpro\_1\ k1\_scmpds\_2\ np\_2) \quad (6)$$

Assume the following.

$$\forall X0. k4\_xtuple\_0\ X0 = k1\_xtuple\_0\ (k1\_xtuple\_0\ X0) \quad (7)$$

Assume the following.

$$\forall X0. ((v1\_ami\_2\ X0) \wedge (m1\_subset\_1\ X0\ (u1\_struct\_0\ k1\_scmpds\_2))) \Rightarrow \\ (k4\_scmpds\_2\ X0 = k3\_xtuple\_0\ np\_1\ k1\_xboole\_0\ (k9\_finseq\_1\ X0)) \quad (8)$$

Assume the following.

$$\forall X0. (v5\_compos\_0\ X0) \Rightarrow (\neg v1\_xboole\_0\ X0) \quad (9)$$

**Theorem 1**

$$\forall X0. ((v1\_ami\_2\ X0) \wedge (m1\_subset\_1\ X0\ (u1\_struct\_0\ k1\_scmpds\_2))) \Rightarrow \\ (k2\_compos\_0\ (u1\_compos\_1\ k1\_scmpds\_2)\ (k4\_scmpds\_2\ X0) = np\_1)$$