

# t5\_scmpds\_4 (TMXPCcjzVp- PZz2NyMNDQ6fqtvRdV3H91Fj3)

October 27, 2020

Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_scmpds\_2 : \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v5\_funct\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_ami\_2 : \iota$  be given. Let  $k8\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $k4\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $l1\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_compos\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$k8\_struct\_0 \ k1\_scmpds\_2 = k2\_ami\_2 \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2\_struct\_0 \ X0) \wedge (l2\_struct\_0 \ X0)) \Rightarrow (u1\_struct\_0 \\ X0 = k4\_subset\_1 \ (u1\_struct\_0 \ X0) \ (k6\_domain\_1 \ (u1\_struct\_0 \ X0) \\ (k4\_struct\_0 \ X0)) \ (k8\_struct\_0 \ X0)) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((\neg v1\_xboole\_0 \ X0) \wedge (m1\_subset\_1 \ X1 \ X0)) \Rightarrow \\ (k6\_domain\_1 \ X0 \ X1 = k1\_tarski \ X1) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. ((m1\_subset\_1 \ X1 \ (k1\_zfmisc\_1 \\ X0)) \wedge (m1\_subset\_1 \ X2 \ (k1\_zfmisc\_1 \ X0))) \Rightarrow (k4\_subset\_1 \ X0 \ X1 \ X2 = \\ k2\_xboole\_0 \ X1 \ X2) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v4\_relat\_1 X1 X0))\Rightarrow(k1\_relset\_1 X0 X1 = k9\_xtuple\_0 X1) \quad (5)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge(l1\_struct\_0 X0))\Rightarrow(\neg v1\_xboole\_0 (u1\_struct\_0 X0)) \quad (6)$$

Assume the following.

$$(\neg v2\_struct\_0 k1\_scmpds\_2)\wedge(v1\_extpro\_1 k1\_scmpds\_2 np\_2) \quad (7)$$

Assume the following.

$$\forall X0.(l2\_struct\_0 X0)\Rightarrow(l1\_struct\_0 X0) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(l1\_memstr\_0 X1 X0)\Rightarrow(l2\_struct\_0 X1) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(l1\_extpro\_1 X1 X0)\Rightarrow((l1\_memstr\_0 X1 X0)\wedge(l1\_compos\_1 X1)) \quad (10)$$

Assume the following.

$$\forall X0.(l2\_struct\_0 X0)\Rightarrow(m1\_subset\_1 (k8\_struct\_0 X0) (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge(m1\_subset\_1 X1 X0))\Rightarrow(m1\_subset\_1 (k6\_domain\_1 X0 X1) (k1\_zfmisc\_1 X0)) \quad (12)$$

Assume the following.

$$\forall X0.(l2\_struct\_0 X0)\Rightarrow(m1\_subset\_1 (k4\_struct\_0 X0) (u1\_struct\_0 X0)) \quad (13)$$

Assume the following.

$$(v1\_extpro\_1 k1\_scmpds\_2 np\_2)\wedge(l1\_extpro\_1 k1\_scmpds\_2 np\_2) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v4\_relat\_1 X1 X0))\Rightarrow(v1\_partfun1 X1 X0)\Leftrightarrow(k1\_relset\_1 X0 X1 = X0) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.k2\_xboole\_0 X0 X1 = k2\_xboole\_0 X1 X0 \quad (16)$$

**Theorem 1**

$$\forall X0.((v1\_relat\_1 X0)\wedge((v4\_relat\_1 X0 (u1\_struct\_0 k1\_scmpds\_2))\wedge((v1\_funct\_1 X0)\wedge((v5\_funct\_1 X0 (k2\_memstr\_0 np\_2 k1\_scmpds\_2))\wedge(v1\_partfun1 X0 (u1\_struct\_0 k1\_scmpds\_2))))))\Rightarrow(k9\_xtuple\_0 X0 = k2\_xboole\_0 (k1\_tarski (k4\_struct\_0 k1\_scmpds\_2)) k2\_ami\_2)$$