

t19\_scmpds\_2 (TMHgVesUAZsCGG-  
wauM78mwYg13W9C6GddVR)

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Let  $v1\_int\_1 : \iota \Rightarrow o$  be given. 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  $k10\_scmpds\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_7 : \iota$  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  $k3\_xtuple\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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  $k1\_xboole\_0 : \iota$  be given. Let  $k11\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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.

$$(v1\_extpro\_1 k1\_scmpds\_2 np\_2) \wedge (l1\_extpro\_1 k1\_scmpds\_2 np\_2) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v1\_ami\_2 X0) \wedge (m1\_subset\_1 \\ & X0 (u1\_struct\_0 k1\_scmpds\_2))) \wedge ((v1\_int\_1 X1) \wedge (v1\_int\_1 X2))) \Rightarrow \quad (6) \\ & (m1\_subset\_1 (k10\_scmpds\_2 X0 X1 X2) (u1\_compos\_1 k1\_scmpds\_2)) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_ami\_2 X0) \wedge (m1\_subset\_1 X0 (u1\_struct\_0 k1\_scmpds\_2))) \Rightarrow \\ & (\forall X1. (v1\_int\_1 X1) \Rightarrow (\forall X2. (v1\_int\_1 X2) \Rightarrow (k10\_scmpds\_2 \\ & X0 X1 X2 = k3\_xtuple\_0 np\_7 k1\_xboole\_0 (k11\_finseq\_1 X0 X1 X2)))) \quad (7) \end{aligned}$$

Assume the following.

$$\forall X0. (v5\_compos\_0 X0) \Rightarrow (\neg v1\_xboole\_0 X0) \quad (8)$$

**Theorem 1**

$$\begin{aligned} & \forall X0. (v1\_int\_1 X0) \Rightarrow (\forall X1. (v1\_int\_1 X1) \Rightarrow (\forall X2. \\ & ((v1\_ami\_2 X2) \wedge (m1\_subset\_1 X2 (u1\_struct\_0 k1\_scmpds\_2))) \Rightarrow \\ & (k2\_compos\_0 (u1\_compos\_1 k1\_scmpds\_2) (k10\_scmpds\_2 X2 X0 X1) = \\ & \quad np\_7))) \end{aligned}$$