

# l3\_scmring2 (TMTmcJAGYiGb- JjdD1QdTKq1X3JT9PaXqfbH)

October 27, 2020

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  $v3\_group\_1 : \iota \Rightarrow o$  be given. Let  $v4\_vectsp\_1 : \iota \Rightarrow o$  be given. Let  $v5\_vectsp\_1 : \iota \Rightarrow o$  be given. Let  $l6\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $k6\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_scmring2 : \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k2\_ami\_2 : \iota$  be given. Let  $k4\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_scm\_inst : \iota$  be given. Let  $v1\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_2 : \iota$  be given. Let  $l1\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_ami\_2 : \iota$  be given. Let  $u2\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $u1\_compos\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_scmringi : \iota \Rightarrow \iota$  be given. Let  $r1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_ami\_2 : \iota$  be given. Let  $u2\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_scmring1 : \iota \Rightarrow \iota$  be given. Let  $u1\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_scmring1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\neg k5\_numbers \in k2\_ami\_2 \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (\neg X0 \in X1) \Rightarrow (k4\_xboole\_0 (k2\_xboole\_0 X1 (k1\_tarski X0)) (k1\_tarski X0) = X1) \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. k6\_subset\_1 X0 X1 = k4\_xboole\_0 X0 X1 \tag{3}$$

Assume the following.

$$k2\_ami\_2 = k2\_scm\_inst \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v3\_group\_1 X0) \wedge (v4\_vectsp\_1 X0) \wedge ((v5\_vectsp\_1 X0) \wedge (l6\_algstr\_0 X0)))))))) \Rightarrow \\ & ((v1\_extpro\_1 (k1\_scmring2 X0) np\_2) \wedge (l1\_extpro\_1 (k1\_scmring2 X0) np\_2)) \end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v3\_group\_1 X0) \wedge ( \\
& (v4\_vectsp\_1 X0) \wedge ((v5\_vectsp\_1 X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow \\
& (\forall X1.((v1\_extpro\_1 X1 \text{ np\_}2) \wedge (l1\_extpro\_1 X1 \text{ np\_}2)) \Rightarrow \\
& ((X1 = k1\_scmring2 X0) \Leftrightarrow ((u1\_struct\_0 X1 = k1\_ami\_2) \wedge ((u2\_struct\_0 \\
& X1 = k5\_numbers) \wedge ((u1\_compos\_1 X1 = k1\_scmringi X0) \wedge ((r1\_funct\_2 \\
& (u1\_struct\_0 X1) \text{ np\_}2 k1\_ami\_2 \text{ np\_}2 (u1\_memstr\_0 \text{ np\_}2 X1) k3\_ami\_2) \wedge \\
& ((u2\_memstr\_0 \text{ np\_}2 X1 = k1\_scmring1 X0) \wedge (u1\_extpro\_1 \text{ np\_}2 X1 = \\
& k8\_scmring1 X0)))))))))
\end{aligned} \tag{6}$$

Assume the following.

$$k1\_ami\_2 = k2\_xboole\_0 (k1\_tarski k5\_numbers) k2\_scm\_inst \tag{7}$$

Assume the following.

$$\forall X0. \forall X1. k2\_xboole\_0 X0 X1 = k2\_xboole\_0 X1 X0 \tag{8}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v3\_group\_1 X0) \wedge ( \\
& (v4\_vectsp\_1 X0) \wedge ((v5\_vectsp\_1 X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow \\
& (k6\_subset\_1 (u1\_struct\_0 (k1\_scmring2 X0)) (k1\_tarski k5\_numbers) = \\
& k2\_ami\_2)
\end{aligned}$$