

# t2\_scmring4 (TMVFHDPsJHxhKEy- FUcq68mpHctYczQjwthS)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v7\_struct\_0 : \iota \Rightarrow o$  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  $v1\_ami\_2 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_scmring2 : \iota \Rightarrow \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k2\_scmring3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_ami\_3 : \iota$  be given. Let  $k2\_ami\_2 : \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k1\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Assume the following.

$$k8\_struct\_0 \ k1\_ami\_3 = k2\_ami\_2 \tag{1}$$

Assume the following.

$$\forall X0. \neg(X0 \in k2\_ami\_2) \wedge (\forall X1. (m1\_subset\_1 \ X1 \ k5\_numbers) \Rightarrow (X0 \neq k4\_tarski \ np\_1 \ X1)) \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. (m2\_subset\_1 \ X0 \ k1\_numbers \ k5\_numbers) \Rightarrow (\forall X1. \\ & ((\neg v2\_struct\_0 \ X1) \wedge (\neg v7\_struct\_0 \ X1) \wedge ((v13\_algstr\_0 \ X1) \wedge ( \\ & (v2\_rlvect\_1 \ X1) \wedge ((v3\_rlvect\_1 \ X1) \wedge ((v4\_rlvect\_1 \ X1) \wedge ((v3\_group\_1 \\ & X1) \wedge ((v4\_vectsp\_1 \ X1) \wedge ((v5\_vectsp\_1 \ X1) \wedge (l6\_algstr\_0 \ X1)))))))))) \Rightarrow \\ & (k2\_scmring3 \ X1 \ X0 = k1\_domain\_1 \ k5\_numbers \ k5\_numbers \ np\_1 \ X0)) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2\_struct\_0 X1) \wedge ((v13\_algstr\_0 X1) \wedge \\ & ((v2\_rlvect\_1 X1) \wedge ((v3\_rlvect\_1 X1) \wedge ((v4\_rlvect\_1 X1) \wedge ((v3\_group\_1 \\ & X1) \wedge ((v4\_vectsp\_1 X1) \wedge ((v5\_vectsp\_1 X1) \wedge (l6\_algstr\_0 X1))))))) \Rightarrow \\ & (((v1\_ami\_2 X0) \wedge (m1\_subset\_1 X0 (u1\_struct\_0 (k1\_scmring2 X1)))) \Leftrightarrow \\ & (X0 \in k8\_struct\_0 k1\_ami\_3)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge \\ & ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2. (m2\_subset\_1 \\ & X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \end{aligned} \quad (6)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1\_xboole\_0 X0) \wedge \\ & ((\neg v1\_xboole\_0 X1) \wedge ((m1\_subset\_1 X2 X0) \wedge (m1\_subset\_1 X3 X1)))) \Rightarrow \\ & (k1\_domain\_1 X0 X1 X2 X3 = k4\_tarski X2 X3) \end{aligned} \quad (8)$$

Assume the following.

$$(\neg v1\_xboole\_0 k4\_ordinal1) \wedge (v3\_ordinal1 k4\_ordinal1) \quad (9)$$

Assume the following.

$$m1\_subset\_1 k5\_numbers (k1\_zfmisc\_1 k1\_numbers) \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v1\_xboole\_0 X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & X0)) \Rightarrow (v1\_xboole\_0 X1)) \end{aligned} \quad (11)$$

### Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((\neg v7\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\ & X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge \\ & ((v3\_group\_1 X0) \wedge ((v4\_vectsp\_1 X0) \wedge ((v5\_vectsp\_1 X0) \wedge (l6\_algstr\_0 \\ & X0)))))))))) \Rightarrow (\forall X1. ((v1\_ami\_2 X1) \wedge (m1\_subset\_1 X1 (u1\_struct\_0 \\ & (k1\_scmring2 X0)))) \Rightarrow (\exists X2. (m2\_subset\_1 X2 k1\_numbers k5\_numbers) \wedge \\ & (X1 = k2\_scmring3 X0 X2))) \end{aligned}$$