

t12\_scm\_1  
(TMTZi1FjLt2Mdma87Zzs1rnnvbZRybNbdF33)

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Let  $k4\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_compos\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_ami\_3 : \iota$  be given. Let  $k6\_numbers : \iota$  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  $k2\_ami\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k3\_ami\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $k4\_ami\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_3 : \iota$  be given. Let  $k5\_ami\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_4 : \iota$  be given. Let  $k6\_ami\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_5 : \iota$  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  $k7\_ami\_3 : \iota \Rightarrow \iota$  be given. Let  $np\_6 : \iota$  be given. Let  $k8\_ami\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_7 : \iota$  be given. Let  $k9\_ami\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_8 : \iota$  be given. Let  $k3\_xtuple\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  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. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k9\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k10\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$k2\_compos\_1 \ k1\_ami\_3 = k3\_xtuple\_0 \ k6\_numbers \ k1\_xboole\_0 \ k1\_xboole\_0 \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((\neg v1\_xboole\_0 \ X0) \wedge ((\neg v1\_xboole\_0 \ X1) \wedge \\ (m1\_subset\_1 \ X1 \ (k1\_zfmisc\_1 \ X0)))) \Rightarrow (\forall X2. (m2\_subset\_1 \\ X2 \ X0 \ X1) \Leftrightarrow (m1\_subset\_1 \ X2 \ X1)) \end{aligned} \tag{2}$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \tag{3}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{4}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. k4\_xtuple\_0 \ (k3\_xtuple\_0 \ X0 \ X1 \ X2) = X0 \tag{5}$$

Assume the following.

$$(\neg v1\_xboole\_0 \ k4\_ordinal1) \wedge (v3\_ordinal1 \ k4\_ordinal1) \quad (6)$$

Assume the following.

$$\neg v1\_xboole\_0 \ k1\_numbers \quad (7)$$

Assume the following.

$$m1\_subset\_1 \ k5\_numbers \ (k1\_zfmisc\_1 \ k1\_numbers) \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7\_ordinal1 \ X0) \Rightarrow (\forall X1.((v1\_ami\_2 \ X1) \wedge (m1\_subset\_1 \\ X1 \ (u1\_struct\_0 \ k1\_ami\_3))) \Rightarrow (k8\_ami\_3 \ X0 \ X1 = k3\_xtuple\_0 \ np\_7 \\ (k9\_finseq\_1 \ X0) \ (k9\_finseq\_1 \ X1))) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 \ X0) \Rightarrow (k7\_ami\_3 \ X0 = k3\_xtuple\_0 \ np\_6 \ ( \\ k9\_finseq\_1 \ X0) \ k1\_xboole\_0) \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_ami\_2 \ X0) \wedge (m1\_subset\_1 \ X0 \ (u1\_struct\_0 \ k1\_ami\_3))) \Rightarrow \\ (\forall X1.((v1\_ami\_2 \ X1) \wedge (m1\_subset\_1 \ X1 \ (u1\_struct\_0 \ k1\_ami\_3))) \Rightarrow \\ (k6\_ami\_3 \ X0 \ X1 = k3\_xtuple\_0 \ np\_5 \ k1\_xboole\_0 \ (k10\_finseq\_1 \ X0 \\ X1))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_ami\_2 \ X0) \wedge (m1\_subset\_1 \ X0 \ (u1\_struct\_0 \ k1\_ami\_3))) \Rightarrow \\ (\forall X1.((v1\_ami\_2 \ X1) \wedge (m1\_subset\_1 \ X1 \ (u1\_struct\_0 \ k1\_ami\_3))) \Rightarrow \\ (k5\_ami\_3 \ X0 \ X1 = k3\_xtuple\_0 \ np\_4 \ k1\_xboole\_0 \ (k10\_finseq\_1 \ X0 \\ X1))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_ami\_2 \ X0) \wedge (m1\_subset\_1 \ X0 \ (u1\_struct\_0 \ k1\_ami\_3))) \Rightarrow \\ (\forall X1.((v1\_ami\_2 \ X1) \wedge (m1\_subset\_1 \ X1 \ (u1\_struct\_0 \ k1\_ami\_3))) \Rightarrow \\ (k4\_ami\_3 \ X0 \ X1 = k3\_xtuple\_0 \ np\_3 \ k1\_xboole\_0 \ (k10\_finseq\_1 \ X0 \\ X1))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_ami\_2 \ X0) \wedge (m1\_subset\_1 \ X0 \ (u1\_struct\_0 \ k1\_ami\_3))) \Rightarrow \\ (\forall X1.((v1\_ami\_2 \ X1) \wedge (m1\_subset\_1 \ X1 \ (u1\_struct\_0 \ k1\_ami\_3))) \Rightarrow \\ (k3\_ami\_3 \ X0 \ X1 = k3\_xtuple\_0 \ np\_2 \ k1\_xboole\_0 \ (k10\_finseq\_1 \ X0 \\ X1))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1\_ami\_2 X0) \wedge (m1\_subset\_1 X0 (u1\_struct\_0 k1\_ami\_3))) \Rightarrow \\
& (\forall X1.((v1\_ami\_2 X1) \wedge (m1\_subset\_1 X1 (u1\_struct\_0 k1\_ami\_3))) \Rightarrow \\
& (k2\_ami\_3 X0 X1 = k3\_xtuple\_0 np\_1 k1\_xboole\_0 (k10\_finseq\_1 X0 \\
& X1)))
\end{aligned} \tag{15}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.((v1\_ami\_2 X1) \wedge (m1\_subset\_1 \\
& X1 (u1\_struct\_0 k1\_ami\_3))) \Rightarrow (k9\_ami\_3 X0 X1 = k3\_xtuple\_0 np\_8 \\
& (k9\_finseq\_1 X0) (k9\_finseq\_1 X1)))
\end{aligned} \tag{16}$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1) \Rightarrow (v7\_ordinal1 X0) \tag{17}$$

**Theorem 1**

$$\begin{aligned}
& (k4\_xtuple\_0 (k2\_compos\_1 k1\_ami\_3) = k6\_numbers) \wedge ((\forall X0. \\
& ((v1\_ami\_2 X0) \wedge (m1\_subset\_1 X0 (u1\_struct\_0 k1\_ami\_3))) \Rightarrow (\forall X1. \\
& ((v1\_ami\_2 X1) \wedge (m1\_subset\_1 X1 (u1\_struct\_0 k1\_ami\_3))) \Rightarrow (k4\_xtuple\_0 \\
& (k2\_ami\_3 X0 X1) = np\_1))) \wedge ((\forall X0.((v1\_ami\_2 X0) \wedge (m1\_subset\_1 \\
& X0 (u1\_struct\_0 k1\_ami\_3))) \Rightarrow (\forall X1.((v1\_ami\_2 X1) \wedge (m1\_subset\_1 \\
& X1 (u1\_struct\_0 k1\_ami\_3))) \Rightarrow (k4\_xtuple\_0 (k3\_ami\_3 X0 X1) = np\_2))) \wedge \\
& ((\forall X0.((v1\_ami\_2 X0) \wedge (m1\_subset\_1 X0 (u1\_struct\_0 k1\_ami\_3))) \Rightarrow \\
& (\forall X1.((v1\_ami\_2 X1) \wedge (m1\_subset\_1 X1 (u1\_struct\_0 k1\_ami\_3))) \Rightarrow \\
& (k4\_xtuple\_0 (k4\_ami\_3 X0 X1) = np\_3))) \wedge ((\forall X0.((v1\_ami\_2 \\
& X0) \wedge (m1\_subset\_1 X0 (u1\_struct\_0 k1\_ami\_3))) \Rightarrow (\forall X1.(( \\
& v1\_ami\_2 X1) \wedge (m1\_subset\_1 X1 (u1\_struct\_0 k1\_ami\_3))) \Rightarrow (k4\_xtuple\_0 \\
& (k5\_ami\_3 X0 X1) = np\_4))) \wedge ((\forall X0.((v1\_ami\_2 X0) \wedge (m1\_subset\_1 \\
& X0 (u1\_struct\_0 k1\_ami\_3))) \Rightarrow (\forall X1.((v1\_ami\_2 X1) \wedge (m1\_subset\_1 \\
& X1 (u1\_struct\_0 k1\_ami\_3))) \Rightarrow (k4\_xtuple\_0 (k6\_ami\_3 X0 X1) = np\_5))) \wedge \\
& ((\forall X0.(m2\_subset\_1 X0 k1\_numbers k5\_numbers) \Rightarrow (k4\_xtuple\_0 \\
& (k7\_ami\_3 X0) = np\_6))) \wedge ((\forall X0.((v1\_ami\_2 X0) \wedge (m1\_subset\_1 \\
& X0 (u1\_struct\_0 k1\_ami\_3))) \Rightarrow (\forall X1.(m2\_subset\_1 X1 k1\_numbers \\
& k5\_numbers) \Rightarrow (k4\_xtuple\_0 (k8\_ami\_3 X1 X0) = np\_7))) \wedge (\forall X0. \\
& ((v1\_ami\_2 X0) \wedge (m1\_subset\_1 X0 (u1\_struct\_0 k1\_ami\_3))) \Rightarrow (\forall X1. \\
& (m2\_subset\_1 X1 k1\_numbers k5\_numbers) \Rightarrow (k4\_xtuple\_0 (k9\_ami\_3 \\
& X1 X0) = np\_8)))))))))
\end{aligned}$$