

t26\_scmpds\_2 (TMVQGk-  
iBEb82yAHvz3b8Crhq6BiKgmWbztd)

October 27, 2020

Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_compos\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_scmpds\_2 : \iota$  be given. Let  $k2\_compos\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_14 : \iota$  be given. Let  $v1\_int\_1 : \iota \Rightarrow o$  be given. Let  $k3\_scmpds\_2 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k3\_xtuple\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_numbers : \iota$  be given. Let  $k9\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_ami\_2 : \iota$  be given. Let  $k2\_ami\_2 : \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k12\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_card\_1 : \iota \Rightarrow \iota$  be given. Let  $np\_15 : \iota$  be given. Let  $k3\_scmpds\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $np\_3 : \iota$  be given. Let  $k11\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_4 : \iota$  be given. Let  $np\_5 : \iota$  be given. Let  $np\_6 : \iota$  be given. Let  $np\_7 : \iota$  be given. Let  $np\_8 : \iota$  be given. Let  $k7\_finseq\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_9 : \iota$  be given. Let  $np\_10 : \iota$  be given. Let  $np\_11 : \iota$  be given. Let  $np\_12 : \iota$  be given. Let  $np\_13 : \iota$  be given. Assume the following.

$$\neg v1\_xboole\_0 \ np\_14 \tag{1}$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 (u1\_compos\_1 k1\_scmpds\_2)) \Rightarrow (\neg(\neg X0 \in \\
& \quad k1\_tarski (k3\_xtuple\_0 k6\_numbers k1\_xboole\_0 k1\_xboole\_0)) \wedge \\
& \quad ((\neg X0 \in ReplSep (toset (\lambda X1 : \iota.m1\_subset\_1 X1 k4\_numbers)) \\
& \quad (\lambda X1 : \iota.True) (\lambda X1 : \iota.k3\_xtuple\_0 np\_14 k1\_xboole\_0 \\
& \quad (k9\_finseq\_1 X1))) \wedge ((\neg X0 \in ReplSep (toset (\lambda X1 : \iota.m2\_subset\_1 \\
& \quad X1 k1\_ami\_2 k2\_ami\_2)) (\lambda X1 : \iota.True) (\lambda X1 : \iota.k3\_xtuple\_0 \\
& \quad np\_11 k1\_xboole\_0 (k12\_finseq\_1 k2\_ami\_2 X1))) \wedge ((\neg X0 \in ReplSep3 \\
& \quad (toset (\lambda X1 : \iota.m1\_subset\_1 X1 (k7\_card\_1 np\_15))) (\lambda X1 : \\
& \quad \iota.toset (\lambda X2 : \iota.m2\_subset\_1 X2 k1\_ami\_2 k2\_ami\_2)) (\lambda X1 : \\
& \quad \iota.\lambda X2 : \iota.toset (\lambda X3 : \iota.m1\_subset\_1 X3 k4\_numbers)) \\
& \quad (\lambda X1 : \iota.\lambda X2 : \iota.\lambda X3 : \iota.X1 \in k2\_tarski np\_2 np\_3) \\
& \quad (\lambda X1 : \iota.\lambda X2 : \iota.\lambda X3 : \iota.k3\_xtuple\_0 X1 k1\_xboole\_0 \\
& \quad (k3\_scmpds\_1 X2 X3))) \wedge ((\neg X0 \in ReplSep4 (toset (\lambda X1 : \iota.m1\_subset\_1 \\
& \quad X1 (k7\_card\_1 np\_15))) (\lambda X1 : \iota.toset (\lambda X2 : \iota.m2\_subset\_1 \\
& \quad X2 k1\_ami\_2 k2\_ami\_2)) (\lambda X1 : \iota.\lambda X2 : \iota.toset (\lambda X3 : \\
& \quad \iota.m1\_subset\_1 X3 k4\_numbers)) (\lambda X1 : \iota.\lambda X2 : \iota.\lambda X3 : \\
& \quad \iota.toset (\lambda X4 : \iota.m1\_subset\_1 X4 k4\_numbers)) (\lambda X1 : \iota. \\
& \quad \lambda X2 : \iota.\lambda X3 : \iota.\lambda X4 : \iota.X1 \in k3\_enumset1 np\_4 np\_5 \\
& \quad np\_6 np\_7 np\_8) (\lambda X1 : \iota.\lambda X2 : \iota.\lambda X3 : \iota.\lambda X4 : \\
& \quad \iota.k3\_xtuple\_0 X1 k1\_xboole\_0 (k11\_finseq\_1 X2 X3 X4))) \wedge (\neg X0 \in \\
& \quad ReplSep5 (toset (\lambda X1 : \iota.m1\_subset\_1 X1 (k7\_card\_1 np\_15))) \\
& \quad (\lambda X1 : \iota.toset (\lambda X2 : \iota.m2\_subset\_1 X2 k1\_ami\_2 k2\_ami\_2)) \\
& \quad (\lambda X1 : \iota.\lambda X2 : \iota.toset (\lambda X3 : \iota.m2\_subset\_1 X3 k1\_ami\_2 \\
& \quad k2\_ami\_2)) (\lambda X1 : \iota.\lambda X2 : \iota.\lambda X3 : \iota.toset (\lambda X4 : \\
& \quad \iota.m1\_subset\_1 X4 k4\_numbers)) (\lambda X1 : \iota.\lambda X2 : \iota.\lambda X3 : \\
& \quad \iota.\lambda X4 : \iota.toset (\lambda X5 : \iota.m1\_subset\_1 X5 k4\_numbers)) \\
& \quad (\lambda X1 : \iota.\lambda X2 : \iota.\lambda X3 : \iota.\lambda X4 : \iota.\lambda X5 : \iota. \\
& \quad X1 \in k3\_enumset1 np\_9 np\_10 np\_11 np\_12 np\_13) (\lambda X1 : \iota. \\
& \quad \lambda X2 : \iota.\lambda X3 : \iota.\lambda X4 : \iota.\lambda X5 : \iota.k3\_xtuple\_0 \\
& \quad X1 k1\_xboole\_0 (k7\_finseq\_4 X2 X3 X4 X5)))))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 (u1\_compos\_1 k1\_scmpds\_2)) \Rightarrow ((X0 \in \\
& \quad k1\_tarski (k3\_xtuple\_0 k6\_numbers k1\_xboole\_0 k1\_xboole\_0)) \Rightarrow \\
& \quad (k2\_compos\_0 (u1\_compos\_1 k1\_scmpds\_2) X0 = k6\_numbers))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 (u1\_compos\_1 k1\_scmpds\_2)) \Rightarrow (\neg(X0 \in \\
& \text{ReplSep5} (tosest (\lambda X1 : \iota.m1\_subset\_1 X1 (k7\_card\_1 np\_15)))) \\
& (\lambda X1 : \iota.tosest (\lambda X2 : \iota.m2\_subset\_1 X2 k1\_ami\_2 k2\_ami\_2)) \\
& (\lambda X1 : \iota.\lambda X2 : \iota.tosest (\lambda X3 : \iota.m2\_subset\_1 X3 k1\_ami\_2 \\
& \quad k2\_ami\_2)) (\lambda X1 : \iota.\lambda X2 : \iota.\lambda X3 : \iota.tosest (\lambda X4 : \\
& \quad \iota.m1\_subset\_1 X4 k4\_numbers)) (\lambda X1 : \iota.\lambda X2 : \iota.\lambda X3 : \\
& \quad \iota.\lambda X4 : \iota.tosest (\lambda X5 : \iota.m1\_subset\_1 X5 k4\_numbers)) \\
& \quad (\lambda X1 : \iota.\lambda X2 : \iota.\lambda X3 : \iota.\lambda X4 : \iota.\lambda X5 : \iota. \\
& \quad X1 \in k3\_enumset1 np\_9 np\_10 np\_11 np\_12 np\_13) (\lambda X1 : \iota. \\
& \quad \lambda X2 : \iota.\lambda X3 : \iota.\lambda X4 : \iota.\lambda X5 : \iota.k3\_xtuple\_0 \\
& X1 k1\_xboole\_0 (k7\_finseq\_4 X2 X3 X4 X5))) \wedge ((k2\_compos\_0 (u1\_compos\_1 \\
& k1\_scmpds\_2) X0 \neq np\_9) \wedge ((k2\_compos\_0 (u1\_compos\_1 k1\_scmpds\_2) \\
& X0 \neq np\_10) \wedge ((k2\_compos\_0 (u1\_compos\_1 k1\_scmpds\_2) X0 \neq np\_11) \wedge \\
& ((k2\_compos\_0 (u1\_compos\_1 k1\_scmpds\_2) X0 \neq np\_12) \wedge (k2\_compos\_0 \\
& (u1\_compos\_1 k1\_scmpds\_2) X0 \neq np\_13))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 (u1\_compos\_1 k1\_scmpds\_2)) \Rightarrow (\neg(X0 \in \\
& \text{ReplSep4} (tosest (\lambda X1 : \iota.m1\_subset\_1 X1 (k7\_card\_1 np\_15)))) \\
& (\lambda X1 : \iota.tosest (\lambda X2 : \iota.m2\_subset\_1 X2 k1\_ami\_2 k2\_ami\_2)) \\
& (\lambda X1 : \iota.\lambda X2 : \iota.tosest (\lambda X3 : \iota.m1\_subset\_1 X3 k4\_numbers)) \\
& (\lambda X1 : \iota.\lambda X2 : \iota.\lambda X3 : \iota.tosest (\lambda X4 : \iota.m1\_subset\_1 \\
& \quad X4 k4\_numbers)) (\lambda X1 : \iota.\lambda X2 : \iota.\lambda X3 : \iota.\lambda X4 : \\
& \quad \iota.X1 \in k3\_enumset1 np\_4 np\_5 np\_6 np\_7 np\_8) (\lambda X1 : \iota. \\
& \quad \lambda X2 : \iota.\lambda X3 : \iota.\lambda X4 : \iota.k3\_xtuple\_0 X1 k1\_xboole\_0 \\
& (k11\_finseq\_1 X2 X3 X4))) \wedge ((k2\_compos\_0 (u1\_compos\_1 k1\_scmpds\_2) \\
& X0 \neq np\_4) \wedge ((k2\_compos\_0 (u1\_compos\_1 k1\_scmpds\_2) X0 \neq np\_5) \wedge \\
& ((k2\_compos\_0 (u1\_compos\_1 k1\_scmpds\_2) X0 \neq np\_6) \wedge ((k2\_compos\_0 \\
& (u1\_compos\_1 k1\_scmpds\_2) X0 \neq np\_7) \wedge (k2\_compos\_0 (u1\_compos\_1 \\
& k1\_scmpds\_2) X0 \neq np\_8))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 (u1\_compos\_1 k1\_scmpds\_2)) \Rightarrow (\neg(X0 \in \\
& \text{ReplSep3} (tosest (\lambda X1 : \iota.m1\_subset\_1 X1 (k7\_card\_1 np\_15)))) \\
& (\lambda X1 : \iota.tosest (\lambda X2 : \iota.m2\_subset\_1 X2 k1\_ami\_2 k2\_ami\_2)) \\
& (\lambda X1 : \iota.\lambda X2 : \iota.tosest (\lambda X3 : \iota.m1\_subset\_1 X3 k4\_numbers)) \\
& (\lambda X1 : \iota.\lambda X2 : \iota.\lambda X3 : \iota.X1 \in k2\_tarski np\_2 np\_3) \\
& (\lambda X1 : \iota.\lambda X2 : \iota.\lambda X3 : \iota.k3\_xtuple\_0 X1 k1\_xboole\_0 \\
& (k3\_scmpds\_1 X2 X3))) \wedge ((k2\_compos\_0 (u1\_compos\_1 k1\_scmpds\_2) \\
& X0 \neq np\_2) \wedge (k2\_compos\_0 (u1\_compos\_1 k1\_scmpds\_2) X0 \neq np\_3))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_subset\_1 X0 (u1\_compos\_1 k1\_scmpds\_2)) \Rightarrow ((X0 \in \\ ReplSep (toset (\lambda X1 : \iota.m2\_subset\_1 X1 k1\_ami\_2 k2\_ami\_2)) \\ (\lambda X1 : \iota.True) (\lambda X1 : \iota.k3\_xtuple\_0 np\_1 k1\_xboole\_0 \\ (k12\_finseq\_1 k2\_ami\_2 X1))) \Rightarrow (k2\_compos\_0 (u1\_compos\_1 k1\_scmpds\_2) \\ X0 = np\_1)) \end{aligned} \quad (8)$$

Assume the following.

$$v1\_xboole\_0 k1\_xboole\_0 \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1\_int\_1 X0) \Rightarrow (k3\_scmpds\_2 X0 = k3\_xtuple\_0 np\_14 \\ k1\_xboole\_0 (k9\_finseq\_1 X0)) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_numbers) \Rightarrow (v1\_int\_1 X0) \quad (11)$$

**Theorem 1**

$$\begin{aligned} \forall X0.(m1\_subset\_1 X0 (u1\_compos\_1 k1\_scmpds\_2)) \Rightarrow (\neg(k2\_compos\_0 \\ (u1\_compos\_1 k1\_scmpds\_2) X0 = np\_14) \wedge (\forall X1.(v1\_int\_1 \\ X1) \Rightarrow (X0 \neq k3\_scmpds\_2 X1))) \end{aligned}$$