

t11\_pre\_circ  
(TMb9TkPnpFTLUH1jF56dBeBZjeZoHG8Ps89)

October 27, 2020

Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $v1\_trees\_1 : \iota \Rightarrow o$  be given. Let  $m1\_trees\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k5\_trees\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k8\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1\_xboole\_0 X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_trees\_1 \\ & X0))) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge ((v1\_finset\_1 X1) \wedge (v1\_trees\_1 \\ & X1))) \Rightarrow (\forall X2.(m1\_trees\_1 X2 X0) \Rightarrow (k5\_trees\_1 X0 X2 X1 = k2\_xboole\_0 \\ & (ReplSep (toset (\lambda X3 : \iota.m1\_trees\_1 X3 X0)) (\lambda X3 : \iota.\neg \\ & r1\_tarski X2 X3) (\lambda X3 : \iota.X3)) (ReplSep (toset (\lambda X3 : \iota. \\ & m1\_trees\_1 X3 X1)) (\lambda X3 : \iota.True) (\lambda X3 : \iota.k8\_finseq\_1 \\ & k5\_numbers X2 X3)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(X2 = k2\_xboole\_0 X0 X1) \Leftrightarrow (\forall X3. \\ & (X3 \in X2) \Leftrightarrow ((X3 \in X0) \vee (X3 \in X1))) \end{aligned} \tag{2}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v1\_xboole\_0 X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_trees\_1 \\ & X0))) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge ((v1\_finset\_1 X1) \wedge (v1\_trees\_1 \\ & X1))) \Rightarrow (\forall X2.(m1\_trees\_1 X2 X0) \Rightarrow (\forall X3.(m2\_finseq\_1 \\ & X3 k5\_numbers) \Rightarrow (\neg (X3 \in k5\_trees\_1 X0 X2 X1) \wedge ((r1\_tarski X2 X3) \wedge \\ & (\forall X4.(m1\_trees\_1 X4 X1) \Rightarrow (X3 \neq k8\_finseq\_1 k5\_numbers X2 \\ & X4)))))))) \end{aligned}$$