

t36\_funct\_3  
(TMVBkSCTQ5mEcnUWrVKpv8nnvGEutp5dBXG)

October 27, 2020

Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_funct\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k4\_tarSKI : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\neg v1\_xboole\_0 \ np\_1 \tag{1}$$

Assume the following.

$$v1\_xboole\_0 \ k1\_xboole\_0 \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. (v1\_relat\_1 \ (k4\_funct\_3 \ X0 \ X1)) \wedge (v1\_funct\_1 \ (k4\_funct\_3 \ X0 \ X1)) \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1\_relat\_1 \ X2) \wedge (v1\_funct\_1 \ X2)) \Rightarrow ((X2 = k4\_funct\_3 \ X0 \ X1) \Leftrightarrow ((k9\_xtuple\_0 \ X2 = X1) \wedge (\forall X3. \\ & (X3 \in X1) \Rightarrow (((X3 \in X0) \Rightarrow (k1\_funct\_1 \ X2 \ X3 = np\_1)) \wedge ((\neg X3 \in X0) \Rightarrow (k1\_funct\_1 \ X2 \ X3 = k1\_xboole\_0)))))) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_relat\_1 \ X0) \wedge (v1\_funct\_1 \ X0)) \Rightarrow (\forall X1. \forall X2. \\ & ((X1 \in k9\_xtuple\_0 \ X0) \Rightarrow ((X2 = k1\_funct\_1 \ X0 \ X1) \Leftrightarrow (k4\_tarSKI \ X1 \ X2 \in X0))) \wedge ((\neg X1 \in k9\_xtuple\_0 \ X0) \Rightarrow ((X2 = k1\_funct\_1 \ X0 \ X1) \Leftrightarrow (X2 = k1\_xboole\_0)))) \end{aligned} \tag{5}$$

**Theorem 1**

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (k1\_funct\_1 \ (k4\_funct\_3 \ X1 \ X2) \\ & \ X0 = np\_1) \Rightarrow (X0 \in X1) \end{aligned}$$