

t26\_grcat\_1  
(TMaCEhf5QHWn57qhwiffbjzUGAax9bMEQUP)

October 27, 2020

Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v13\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v3\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v4\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $l2\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v1\_grcat\_1 : \iota \Rightarrow o$  be given. Let  $m1\_grcat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m4\_grcat\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((\neg v2\_struct\_0 X1) \wedge \\ & ((v13\_algstr\_0 X1) \wedge (v3\_rlvect\_1 X1) \wedge (v4\_rlvect\_1 X1) \wedge (l2\_algstr\_0 \\ & X1)))) \Rightarrow (\forall X2. ((\neg v2\_struct\_0 X2) \wedge ((v13\_algstr\_0 X2) \wedge \\ & (v3\_rlvect\_1 X2) \wedge (v4\_rlvect\_1 X2) \wedge (l2\_algstr\_0 X2)))) \Rightarrow ( \\ & (m4\_grcat\_1 X0 X1 X2) \Leftrightarrow (\forall X3. (m1\_subset\_1 X3 X0) \Rightarrow ((v1\_grcat\_1 \\ & X3) \wedge (m1\_grcat\_1 X3 X1 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \neg v1\_xboole\_0 (k1\_tarski X0) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (X1 = k1\_tarski X0) \Leftrightarrow (\forall X2. (X2 \in X1) \Leftrightarrow (X2 = X0)) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \Rightarrow ((m1\_subset\_1 X1 X0) \Leftrightarrow \\ & (X1 \in X0))) \wedge ((v1\_xboole\_0 X0) \Rightarrow ((m1\_subset\_1 X1 X0) \Leftrightarrow (v1\_xboole\_0 \\ & X1))) \end{aligned} \quad (4)$$

**Theorem 1**

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v3\_rlvect\_1 \\ & X0) \wedge ((v4\_rlvect\_1 X0) \wedge (l2\_algstr\_0 X0)))) \Rightarrow (\forall X1. ((\neg \\ & v2\_struct\_0 X1) \wedge ((v13\_algstr\_0 X1) \wedge ((v3\_rlvect\_1 X1) \wedge ((v4\_rlvect\_1 \\ & X1) \wedge (l2\_algstr\_0 X1)))) \Rightarrow (\forall X2. ((v1\_grcat\_1 X2) \wedge (m1\_grcat\_1 \\ & X2 X0 X1)) \Rightarrow (m4\_grcat\_1 (k1\_tarski X2) X0 X1))) \end{aligned}$$