

t29\_altcat\_2 (TMcWQvd-  
JQV91q5pkKdKtE8ucc3h9DxMbS7r)

October 27, 2020

Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l2\_altcat\_1 : \iota \Rightarrow o$  be given. Let  $m1\_altcat\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $l1\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_altcat\_1 : \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_altcat\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_altcat\_1 : \iota \Rightarrow \iota$  be given. Let  $k3\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u2\_altcat\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. \neg(X0 \in X1) \wedge (v1\_xboole\_0 X1) \quad (1)$$

Assume the following.

$$\forall X0. ((\neg v2\_struct\_0 X0) \wedge (l1\_struct\_0 X0)) \Rightarrow (\neg v1\_xboole\_0 (u1\_struct\_0 X0)) \quad (2)$$

Assume the following.

$$\forall X0. (l2\_altcat\_1 X0) \Rightarrow (\forall X1. (m1\_altcat\_2 X1 X0) \Rightarrow (l2\_altcat\_1 X1)) \quad (3)$$

Assume the following.

$$\forall X0. (l2\_altcat\_1 X0) \Rightarrow (l1\_altcat\_1 X0) \quad (4)$$

Assume the following.

$$\forall X0. (l1\_altcat\_1 X0) \Rightarrow (l1\_struct\_0 X0) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. (r1\_tarski X0 X1) \Leftrightarrow (\forall X2. (X2 \in X0) \Rightarrow (X2 \in X1)) \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \Rightarrow ((m1\_subset\_1 X1 X0) \Leftrightarrow (X1 \in X0))) \wedge ((v1\_xboole\_0 X0) \Rightarrow ((m1\_subset\_1 X1 X0) \Leftrightarrow (v1\_xboole\_0 X1))) \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.(l2\_altcat\_1 X0) \Rightarrow (\forall X1.(l2\_altcat\_1 X1) \Rightarrow (( \\ m1\_altcat\_2 X1 X0) \Leftrightarrow ((r1\_tarski (u1\_struct\_0 X1) (u1\_struct\_0 \\ X0)) \wedge ((r2\_altcat\_2 (k2\_zfmisc\_1 (u1\_struct\_0 X1) (u1\_struct\_0 \\ X1)) (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X0)) (u1\_altcat\_1 \\ X1) (u1\_altcat\_1 X0)) \wedge (r2\_altcat\_2 (k3\_zfmisc\_1 (u1\_struct\_0 \\ X1) (u1\_struct\_0 X1) (u1\_struct\_0 X1)) (k3\_zfmisc\_1 (u1\_struct\_0 \\ X0) (u1\_struct\_0 X0) (u1\_struct\_0 X0)) (u2\_altcat\_1 X1) (u2\_altcat\_1 \\ X0)))))) \end{aligned} \tag{8}$$

**Theorem 1**

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge (l2\_altcat\_1 X0)) \Rightarrow (\forall X1. \\ ((\neg v2\_struct\_0 X1) \wedge (m1\_altcat\_2 X1 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 \\ X2 (u1\_struct\_0 X1)) \Rightarrow (m1\_subset\_1 X2 (u1\_struct\_0 X0)))) \end{aligned}$$