# t13_cat_1 (TMYoTxo6jqkDVTTP5UtuyKdvZsiJpE1Vvj2)

October 27, 2020

Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k3\_cat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_cat\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $u4\_struct\_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\neg(X0 \in X1) \wedge (v1\_xboole\_0\ X1) \tag{1}$$

Assume the following.

$$\begin{gathered}\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0 \\ (k3\_cat\_1\ X0\ X1))) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ ( \\ k3\_cat\_1\ X0\ X1))) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ (u4\_struct\_0\ (k3\_cat\_1 \\ X0\ X1))) \Rightarrow (X4 \in k2\_cat\_1\ (k3\_cat\_1\ X0\ X1)\ X2\ X3)))\end{gathered} \tag{2}$$

Assume the following.

$$v1\_xboole\_0\ k1\_xboole\_0 \tag{3}$$

Assume the following.

$$\forall X0.\exists X1.m1\_subset\_1\ X1\ X0 \tag{4}$$

**Theorem 1**

$$\begin{gathered}\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0 \\ (k3\_cat\_1\ X0\ X1))) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ ( \\ k3\_cat\_1\ X0\ X1))) \Rightarrow (k2\_cat\_1\ (k3\_cat\_1\ X0\ X1)\ X2\ X3 \neq k1\_xboole\_0))\end{gathered}$$