t4_grcat_1 (TMKie4tqWm3NjKKZqPJg393hzQ8tDuEs9K3)

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Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k3\_algstr\_0 : \iota$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $k3\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $np\_\_1 : \iota$ be given. Let $k1\_tarski : \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k5\_funct\_5 : \iota$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $g2\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v13\_struct\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v8\_algstr\_0 : \iota \Rightarrow o$ be given. Let $v2\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $l2\_algstr\_0 : \iota \Rightarrow o$ be given. Let $l2\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_algstr\_0 : \iota \Rightarrow o$ be given. Let $k9\_funct\_5 : \iota$ be given. Let $u1\_algstr\_0 : \iota \Rightarrow \iota$ be given. Let $u2\_struct\_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$np\_\_1 = k1\_tarski\ k1\_xboole\_0 \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X0\ X1) \Rightarrow ((v1\_xboole\_0\ X1) \vee (X0 \in X1)) \tag{2}$$

Assume the following.

$$k5\_funct\_5 = k1\_xboole\_0 \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v1\_funct\_1\ X1) \wedge ((v1\_funct\_2\ X1\ (k2\_zfmisc\_1\ X0\ X0)\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0)))))) \wedge (m1\_subset\_1\ X2\ X0)) \Rightarrow (\forall X3.\forall X4.\forall X5.(g2\_algstr\_0\ X0\ X1\ X2 = g2\_algstr\_0\ X3\ X4\ X5) \Rightarrow ((X0 = X3) \wedge ((X1 = X4) \wedge (X2 = X5)))) \tag{4}$$

Assume the following.

$$(v13\_struct\_0\ k3\_algstr\_0\ np\_\_1) \wedge (v8\_algstr\_0\ k3\_algstr\_0) \tag{5}$$

Assume the following.

$$\forall X0.\neg v1\_xboole\_0\ (k1\_tarski\ X0) \tag{6}$$

Assume the following.

$$v2\_rlvect\_1\ k3\_algstr\_0 \tag{7}$$

Assume the following.

$$\forall X0.(l2\_algstr\_0\ X0) \Rightarrow ((l2\_struct\_0\ X0) \wedge (l1\_algstr\_0\ X0)) \tag{8}$$

Assume the following.

$$(v1\_funct\_1\ k9\_funct\_5) \wedge ((v1\_funct\_2\ k9\_funct\_5\ (k2\_zfmisc\_1\ np\_\_1\ np\_\_1)\ np\_\_1) \wedge (m1\_subset\_1\ k9\_funct\_5\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ np\_\_1\ np\_\_1)\ np\_\_1)))) \tag{9}$$

Assume the following.

$$m1\_subset\_1\ k5\_funct\_5\ np\_\_1 \tag{10}$$

Assume the following.

$$\forall X0.(l2\_struct\_0\ X0) \Rightarrow (m1\_subset\_1\ (k4\_struct\_0\ X0)\ (u1\_struct\_0\ X0)) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.((l2\_algstr\_0\ X0) \wedge (m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))) \Rightarrow (m1\_subset\_1\ (k4\_algstr\_0\ X0\ X1)\ (u1\_struct\_0\ X0)) \tag{12}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v2\_rlvect\_1\ X0) \wedge (l1\_algstr\_0\ X0)) \wedge ((m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \wedge (m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)))) \Rightarrow (m1\_subset\_1\ (k3\_rlvect\_1\ X0\ X1\ X2)\ (u1\_struct\_0\ X0)) \tag{13}$$

Assume the following.

$$l2\_algstr\_0\ k3\_algstr\_0 \tag{14}$$

Assume the following.

$$k3\_algstr\_0 = g2\_algstr\_0\ np\_\_1\ k9\_funct\_5\ k5\_funct\_5 \tag{15}$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k1\_tarski\ X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (X2 = X0)) \tag{16}$$

Assume the following.

$$\forall X0.(l2\_algstr\_0\ X0) \Rightarrow ((v8\_algstr\_0\ X0) \Rightarrow (X0 = g2\_algstr\_0\ (u1\_struct\_0\ X0)\ (u1\_algstr\_0\ X0)\ (u2\_struct\_0\ X0))) \tag{17}$$

Theorem 1

$$(\forall X0.(m1\_subset\_1\ X0\ (u1\_struct\_0\ k3\_algstr\_0))\Rightarrow(X0 = k1\_xboole\_0))\wedge((\forall X0.(m1\_subset\_1\ X0\ (u1\_struct\_0\ k3\_algstr\_0))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ k3\_algstr\_0))\Rightarrow(k3\_rlvect\_1\ k3\_algstr\_0\ X0\ X1 = k1\_xboole\_0)))\wedge((\forall X0.(m1\_subset\_1\ X0\ (u1\_struct\_0\ k3\_algstr\_0))\Rightarrow(k4\_algstr\_0\ k3\_algstr\_0\ X0 = k1\_xboole\_0))\wedge(k4\_struct\_0\ k3\_algstr\_0 = k1\_xboole\_0)))$$