

t79_cat_1 (TMW- BXRr2XBLKak4bnkdMLP9ZFEeFtDiygEP)

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Let $v2_struct.0 : \iota \Rightarrow o$ be given. Let $v11_struct.0 : \iota \Rightarrow o$ be given. Let $v2_cat.1 : \iota \Rightarrow o$ be given. Let $v3_cat.1 : \iota \Rightarrow o$ be given. Let $v4_cat.1 : \iota \Rightarrow o$ be given. Let $v5_cat.1 : \iota \Rightarrow o$ be given. Let $v6_cat.1 : \iota \Rightarrow o$ be given. Let $l1_cat.1 : \iota \Rightarrow o$ be given. Let $m1_subset.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct.0 : \iota \Rightarrow \iota$ be given. Let $k8_cat.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_cat.1 : \iota \Rightarrow \iota$ be given. Let $k3_funct.2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_cat.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_cat.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct.0 X0) \wedge ((\neg v11_struct.0 X0) \wedge ((v2_cat.1 \\ & X0) \wedge ((v3_cat.1 X0) \wedge ((v4_cat.1 X0) \wedge ((v5_cat.1 X0) \wedge ((v6_cat.1 \\ & X0) \wedge (l1_cat.1 X0)))))))) \Rightarrow (\forall X1.(m1_subset.1 X1 (u1_struct.0 \\ & X0)) \Rightarrow (k3_funct.2 (u1_struct.0 X0) (u1_struct.0 X0) (k7_cat.1 \\ & X0 X0 (k10_cat.1 X0)) X1 = X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct.0 X0) \wedge ((\neg v11_struct.0 X0) \wedge ((v2_cat.1 \\ & X0) \wedge ((v3_cat.1 X0) \wedge ((v4_cat.1 X0) \wedge ((v5_cat.1 X0) \wedge ((v6_cat.1 \\ & X0) \wedge (l1_cat.1 X0)))))))) \Rightarrow (m2_cat.1 (k10_cat.1 X0) X0 X0) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct.0 X0) \wedge ((\neg v11_struct.0 X0) \wedge ((v2_cat.1 \\ & X0) \wedge ((v3_cat.1 X0) \wedge ((v4_cat.1 X0) \wedge ((v5_cat.1 X0) \wedge ((v6_cat.1 \\ & X0) \wedge (l1_cat.1 X0)))))))) \Rightarrow (\forall X1.((\neg v2_struct.0 X1) \wedge ((\\ & \neg v11_struct.0 X1) \wedge ((v2_cat.1 X1) \wedge ((v3_cat.1 X1) \wedge ((v4_cat.1 \\ & X1) \wedge ((v5_cat.1 X1) \wedge ((v6_cat.1 X1) \wedge (l1_cat.1 X1)))))))) \Rightarrow (\forall X2. \\ & (m2_cat.1 X2 X0 X1) \Rightarrow (\forall X3.(m1_subset.1 X3 (u1_struct.0 X0)) \Rightarrow \\ & (k8_cat.1 X0 X1 X2 X3 = k3_funct.2 (u1_struct.0 X0) (u1_struct.0 \\ & X1) (k7_cat.1 X0 X1 X2) X3))) \end{aligned} \quad (3)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct.0 X0) \wedge ((\neg v11_struct.0 X0) \wedge ((v2_cat.1 \\ & X0) \wedge ((v3_cat.1 X0) \wedge ((v4_cat.1 X0) \wedge ((v5_cat.1 X0) \wedge ((v6_cat.1 \\ & X0) \wedge (l1_cat.1 X0)))))))) \Rightarrow (\forall X1.(m1_subset.1 X1 (u1_struct.0 \\ & X0)) \Rightarrow (k8_cat.1 X0 X0 (k10_cat.1 X0) X1 = X1)) \end{aligned}$$