t29_altcat_3 (TMa3As9FsinGoCGXie5U9HKwfxY7XVGRNaV)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v2\_altcat\_1 : \iota \Rightarrow o$ be given. Let $v11\_altcat\_1 : \iota \Rightarrow o$ be given. Let $v12\_altcat\_1 : \iota \Rightarrow o$ be given. Let $l2\_altcat\_1 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $v8\_altcat\_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2\_altcat\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v6\_altcat\_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1\_altcat\_1 : \iota \Rightarrow o$ be given. Let $v7\_altcat\_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v2\_altcat\_1\ X0) \wedge ((v11\_altcat\_1\ X0) \wedge ((v12\_altcat\_1\ X0) \wedge (l2\_altcat\_1\ X0))))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (((v6\_altcat\_3\ X1\ X0) \wedge (v6\_altcat\_3\ X2\ X0)) \Rightarrow (r2\_altcat\_3\ X0\ X1\ X2)))) \tag{1}$$

Assume the following.

$$\forall X0.(l2\_altcat\_1\ X0) \Rightarrow (l1\_altcat\_1\ X0) \tag{2}$$

Assume the following.

$$\forall X0.(l1\_altcat\_1\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow ((v8\_altcat\_3\ X1\ X0) \Leftrightarrow ((v6\_altcat\_3\ X1\ X0) \wedge (v7\_altcat\_3\ X1\ X0)))) \tag{3}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v2\_altcat\_1\ X0) \wedge ((v11\_altcat\_1\ X0) \wedge ((v12\_altcat\_1\ X0) \wedge (l2\_altcat\_1\ X0))))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (((v8\_altcat\_3\ X1\ X0) \wedge (v8\_altcat\_3\ X2\ X0)) \Rightarrow (r2\_altcat\_3\ X0\ X1\ X2))))$$