t38_funct_1 (TMRNtmpfjvr-JuGNk8HQyRypLAWoSKiEcYVJ)

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Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v2\_funct\_1 : \iota \Rightarrow o$ be given. Let $k9\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k10\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_funct\_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge (v1\_funct\_1\ X0)) \Rightarrow ((v2\_funct\_1\ X0) \Rightarrow (\forall X1.((v1\_relat\_1\ X1) \wedge (v1\_funct\_1\ X1)) \Rightarrow ((X1 = k2\_funct\_1\ X0) \Leftrightarrow ((k9\_xtuple\_0\ X1 = k10\_xtuple\_0\ X0) \wedge (\forall X2.\forall X3.(((X2 \in k10\_xtuple\_0\ X0) \wedge (X3 = k1\_funct\_1\ X1\ X2)) \Rightarrow ((X3 \in k9\_xtuple\_0\ X0) \wedge (X2 = k1\_funct\_1\ X0\ X3))) \wedge (((X3 \in k9\_xtuple\_0\ X0) \wedge (X2 = k1\_funct\_1\ X0\ X3)) \Rightarrow ((X2 \in k10\_xtuple\_0\ X0) \wedge (X3 = k1\_funct\_1\ X1\ X2))))))))) \tag{1}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge (v1\_funct\_1\ X0)) \Rightarrow (\forall X1.(X1 = k10\_xtuple\_0\ X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (\exists X3.(X3 \in k9\_xtuple\_0\ X0) \wedge (X2 = k1\_funct\_1\ X0\ X3)))) \tag{2}$$

Theorem 1

$$\forall X0.((v1\_relat\_1\ X0) \wedge (v1\_funct\_1\ X0)) \Rightarrow (\forall X1.((v1\_relat\_1\ X1) \wedge (v1\_funct\_1\ X1)) \Rightarrow (((v2\_funct\_1\ X0) \wedge ((k9\_xtuple\_0\ X0 = k10\_xtuple\_0\ X1) \wedge ((k10\_xtuple\_0\ X0 = k9\_xtuple\_0\ X1) \wedge (\forall X2.\forall X3.((X2 \in k9\_xtuple\_0\ X0) \wedge (X3 \in k9\_xtuple\_0\ X1)) \Rightarrow ((k1\_funct\_1\ X0\ X2 = X3) \Leftrightarrow (k1\_funct\_1\ X1\ X3 = X2)))))) \Rightarrow (X1 = k2\_funct\_1\ X0)))$$