

t8_altcat_1 (TMVGe-
Szk3BrDBtZNQYAdwJRXceDFSNh1kD)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_multop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r6_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_xtuple_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \neg (X0 \in k3_zfmisc_1 \\ & X1 X2 X3) \wedge (\forall X4. \forall X5. \forall X6. \neg (X4 \in X1) \wedge ((X5 \in X2) \wedge \\ & ((X6 \in X3) \wedge (X0 = k3_xtuple_0 X4 X5 X6)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. k3_zfmisc_1 X0 X1 X2 = k2_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1) X2 \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. \forall X2. \\ & \forall X3. k1_multop_1 X0 X1 X2 X3 = k1_funct_1 X0 (k3_xtuple_0 X1 \\ & X2 X3)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 X0) \wedge \\ & (v1_funct_1 X1) \wedge (v1_partfun1 X1 X0))) \Rightarrow (\forall X2. ((v1_relat_1 \\ & X2) \wedge ((v4_relat_1 X2 X0) \wedge ((v1_funct_1 X2) \wedge (v1_partfun1 X2 X0)))) \Rightarrow \\ & ((r6_pboole X0 X1 X2) \Leftrightarrow (\forall X3. (X3 \in X0) \Rightarrow (k1_funct_1 X1 X3 = k1_funct_1 \\ & X2 X3)))) \end{aligned} \quad (4)$$

Theorem 1

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 (k3_zfmisc_1 \\ & X0 X0 X0)) \wedge ((v1_funct_1 X1) \wedge (v1_partfun1 X1 (k3_zfmisc_1 X0 X0 \\ & X0)))))) \Rightarrow (\forall X2. ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 (k3_zfmisc_1 \\ & X0 X0 X0)) \wedge ((v1_funct_1 X2) \wedge (v1_partfun1 X2 (k3_zfmisc_1 X0 X0 \\ & X0)))))) \Rightarrow ((\forall X3. \forall X4. \forall X5. ((X3 \in X0) \wedge ((X4 \in X0) \wedge \\ & (X5 \in X0))) \Rightarrow (k1_multop_1 X1 X3 X4 X5 = k1_multop_1 X2 X3 X4 X5)) \Rightarrow (r6_pboole \\ & (k3_zfmisc_1 X0 X0 X0) X2 X1))) \end{aligned}$$