

t20_partfun2
(TMXhG6GXTHRTJRby3oLXCiKWvFftJep6g3C)

October 27, 2020

Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_partfun2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (\neg v1_xboole_0 X1) \Rightarrow (\forall X2. (\neg v1_xboole_0 \\ & X2) \Rightarrow (\forall X3. ((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X2 X1)))) \Rightarrow (\forall X4. ((v1_funct_1 X4) \wedge (m1_subset_1 \\ & X4 (k1_zfmisc_1 (k2_zfmisc_1 X2 X1)))) \Rightarrow ((r2_relset_1 X2 X1 X3 (\\ & k3_partfun2 X2 X1 X0 X4)) \Leftrightarrow ((\forall X5. (m1_subset_1 X5 X2) \Rightarrow ((X5 \in \\ & k1_relset_1 X2 X3) \Leftrightarrow ((X5 \in k1_relset_1 X2 X4) \wedge (k7_partfun1 X1 X4 \\ & X5 \in X0)))) \wedge (\forall X5. (m1_subset_1 X5 X2) \Rightarrow ((X5 \in k1_relset_1 \\ & X2 X3) \Rightarrow (k7_partfun1 X1 X3 X5 = k7_partfun1 X1 X4 X5))))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((m1_subset_1 X2 \\ & (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))) \Rightarrow (r2_relset_1 X0 X1 X2 X2) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((\neg v1_xboole_0 X0) \wedge \\ & ((\neg v1_xboole_0 X1) \wedge ((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))))) \Rightarrow ((v1_funct_1 (k3_partfun2 X0 X1 X2 X3)) \wedge \\ & (m1_subset_1 (k3_partfun2 X0 X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))))) \end{aligned} \quad (3)$$

Theorem 1

$$\begin{aligned} & \forall X0. \forall X1. (\neg v1_xboole_0 X1) \Rightarrow (\forall X2. (\neg v1_xboole_0 \\ & X2) \Rightarrow (\forall X3. (m1_subset_1 X3 X1) \Rightarrow (\forall X4. ((v1_funct_1 \\ & X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X1 X2)))) \Rightarrow ((X3 \in \\ & k1_relset_1 X1 (k3_partfun2 X1 X2 X0 X4)) \Leftrightarrow ((X3 \in k1_relset_1 X1 X4) \wedge \\ & (k7_partfun1 X2 X4 X3 \in X0)))))) \end{aligned}$$