

t5_partit_2 (TMbP- toVWk2LnuFxKqPsVUNGdsJC4scqh6qy)

October 27, 2020

Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_eqrel_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_partit1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15_bvfunc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k11_eqrel_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_relat_2 : \iota \Rightarrow o$ be given. Let $v8_relat_2 : \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.\neg(X0 \in X1) \wedge ((m1_subset_1 X1 (k1_zfmisc_1 X2)) \wedge (v1_xboole_0 X2)) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0) \wedge ((m1_subset_1 X1 X0) \wedge (m1_eqrel_1 X2 X0))) \Rightarrow (k15_bvfunc_1 X0 X1 X2 = k11_eqrel_1 X0 X1 X2) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge (m1_eqrel_1 X1 X0)) \Rightarrow ((v1_partfun1 (k4_partit1 X0 X1) X0) \wedge ((v3_relat_2 (k4_partit1 X0 X1)) \wedge ((v8_relat_2 (k4_partit1 X0 X1)) \wedge (m1_subset_1 (k4_partit1 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))))) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0) \wedge ((m1_subset_1 X1 X0) \wedge (m1_eqrel_1 X2 X0))) \Rightarrow (m1_subset_1 (k11_eqrel_1 X0 X1 X2) (k1_zfmisc_1 X0)) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_eqrel_1 X1 X0) \Rightarrow \\ (\forall X2.((v1_partfun1 X2 X0) \wedge ((v3_relat_2 X2) \wedge ((v8_relat_2 \\ X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))))) \Rightarrow ((\\ X2 = k4_partit1 X0 X1) \Leftrightarrow (\forall X3.\forall X4.(k4_tarski X3 X4 \in \\ X2) \Leftrightarrow (\exists X5.(m1_subset_1 X5 (k1_zfmisc_1 X0)) \wedge ((X5 \in X1) \wedge \\ ((X3 \in X5) \wedge (X4 \in X5))))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 X0) \Rightarrow \\ (\forall X2.(m1_eqrel_1 X2 X0) \Rightarrow (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 \\ X0)) \Rightarrow ((X3 = k11_eqrel_1 X0 X1 X2) \Leftrightarrow ((X1 \in X3) \wedge (X3 \in X2)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.k4_tarski X0 X1 = k2_tarski (k2_tarski X0 X1) (k1_tarski X0) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.k2_tarski X0 X1 = k2_tarski X1 X0 \quad (9)$$

Theorem 1

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_eqrel_1 X1 X0) \Rightarrow \\ (\forall X2.(m1_subset_1 X2 X0) \Rightarrow (\forall X3.(m1_subset_1 X3 X0) \Rightarrow \\ ((k4_tarski X2 X3 \in k4_partit1 X0 X1) \Leftrightarrow (X2 \in k15_bvfunc_1 X0 X3 X1)))))) \end{aligned}$$