

l56_arytm_2

(TMXzzcx1pot2NYJtmHSuLkF9TeFPSghxdH5)

October 27, 2020

Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_arytm_2 : \iota$ be given. Let $r1_arytm_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_arytm_2 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_arytm_3 : \iota$ be given. Let $r3_arytm_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_arytm_2 : \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_arytm_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $np_1 : \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. k6_subset_1 X0 X1 = k4_xboole_0 X0 X1 \quad (3)$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 k2_arytm_2) \Rightarrow (\forall X1. (m1_subset_1 X1 k2_arytm_2) \Rightarrow (((r1_arytm_2 X0 X1) \wedge (r1_arytm_2 X1 X0)) \Rightarrow (X0 = X1))) \quad (4)$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 k2_arytm_2) \Rightarrow (\forall X1. (m1_subset_1 X1 k2_arytm_2) \Rightarrow ((r1_tarski (k3_arytm_2 X0) (k3_arytm_2 X1)) \Rightarrow (r1_arytm_2 X0 X1))) \quad (5)$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \neg (X0 \in \text{ReplSep} (\text{toset} (\lambda X2 : \iota. m1_subset_1 \\
& \quad X2 (k1_zfmisc_1 k5_arytm_3))) (\lambda X2 : \iota. \forall X3. (m1_subset_1 \\
& \quad X3 k5_arytm_3) \Rightarrow ((X3 \in X2) \Rightarrow ((\forall X4. (m1_subset_1 X4 k5_arytm_3) \Rightarrow \\
& \quad (r3_arytm_3 X4 X3) \Rightarrow (X4 \in X2))) \wedge (\exists X4. (m1_subset_1 X4 k5_arytm_3) \wedge \\
& \quad ((X4 \in X2) \wedge (\neg r3_arytm_3 X4 X3)))))) (\lambda X2 : \iota. X2)) \wedge ((X1 \in \text{ReplSep} \\
& \quad (\text{toset} (\lambda X2 : \iota. m1_subset_1 X2 (k1_zfmisc_1 k5_arytm_3))) \\
& \quad (\lambda X2 : \iota. \forall X3. (m1_subset_1 X3 k5_arytm_3) \Rightarrow ((X3 \in X2) \Rightarrow \\
& \quad ((\forall X4. (m1_subset_1 X4 k5_arytm_3) \Rightarrow ((r3_arytm_3 X4 X3) \Rightarrow \\
& \quad (X4 \in X2))) \wedge (\exists X4. (m1_subset_1 X4 k5_arytm_3) \wedge ((X4 \in X2) \wedge \\
& \quad (\neg r3_arytm_3 X4 X3)))))) (\lambda X2 : \iota. X2)) \wedge ((\neg r1_tarski X0 X1) \wedge \\
& \quad (\neg r1_tarski X1 X0)))
\end{aligned} \tag{6}$$

Assume the following.

$$\forall X0. \neg v1_xboole_0 (k1_zfmisc_1 X0) \tag{7}$$

Assume the following.

$$\neg v1_xboole_0 k1_arytm_2 \tag{8}$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 k2_arytm_2) \Rightarrow (m2_subset_1 (k3_arytm_2 X0) (k1_zfmisc_1 k5_arytm_3) k1_arytm_2) \tag{9}$$

Assume the following.

$$m1_subset_1 k1_arytm_2 (k1_zfmisc_1 (k1_zfmisc_1 k5_arytm_3)) \tag{10}$$

Assume the following.

$$\begin{aligned}
& k5_arytm_3 = k2_xboole_0 (k6_subset_1 (\text{ReplSep2} (\text{toset} (\lambda X0 : \\
& \quad \iota. m1_subset_1 X0 k4_ordinal1)) (\lambda X0 : \iota. \text{toset} (\lambda X1 : \\
& \quad \iota. m1_subset_1 X1 k4_ordinal1)) (\lambda X0 : \iota. \lambda X1 : \iota. (r1_arytm_3 \\
& \quad X0 X1) \wedge (X1 \neq k1_xboole_0)) (\lambda X0 : \iota. \lambda X1 : \iota. k4_tarski \\
& \quad X0 X1)) (\text{ReplSep} (\text{toset} (\lambda X0 : \iota. m1_subset_1 X0 k4_ordinal1)) \\
& \quad (\lambda X0 : \iota. \text{True}) (\lambda X0 : \iota. k4_tarski X0 np_1))) k4_ordinal1
\end{aligned} \tag{11}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (X2 = k4_xboole_0 X0 X1) \Leftrightarrow (\forall X3. \\
& \quad (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (\neg X3 \in X1)))
\end{aligned} \tag{12}$$

Assume the following.

$$\begin{aligned}
& k1_arytm_2 = k6_subset_1 (\text{ReplSep} (\text{toset} (\lambda X0 : \iota. m1_subset_1 \\
& \quad X0 (k1_zfmisc_1 k5_arytm_3))) (\lambda X0 : \iota. \forall X1. (m1_subset_1 \\
& \quad X1 k5_arytm_3) \Rightarrow ((X1 \in X0) \Rightarrow ((\forall X2. (m1_subset_1 X2 k5_arytm_3) \Rightarrow \\
& \quad ((r3_arytm_3 X2 X1) \Rightarrow (X2 \in X0))) \wedge (\exists X2. (m1_subset_1 X2 k5_arytm_3) \wedge \\
& \quad ((X2 \in X0) \wedge (\neg r3_arytm_3 X2 X1)))))) (\lambda X0 : \iota. X0)) (k1_tarski \\
& \quad k5_arytm_3)
\end{aligned} \tag{13}$$

Theorem 1

$$\forall X0.(m1_subset_1 X0 k2_arytm_2) \Rightarrow (\forall X1.(m1_subset_1 X1 k2_arytm_2) \Rightarrow ((r1_arytm_2 X0 X1) \Rightarrow (r1_tarski (k3_arytm_2 X0) (k3_arytm_2 X1))))$$