

l30_arytm_2

(TMK4bM8Lm6r1XZ6nXJaNDYsWi4yi1rHJGZU)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_arytm_2 : \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_arytm_2 : \iota \Rightarrow \iota$ be given. Let $r1_arytm_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k11_arytm_3 : \iota$ be given. Let $k1_xboole_0 : \iota$ 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 $k6_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $np_1 : \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (k1_zfmisc_1 X0)) \Rightarrow ((\forall X3. (m1_subset_1 \\ & X3 X0) \Rightarrow ((X3 \in X1) \Rightarrow (X3 \in X2))) \Rightarrow (r1_tarski X1 X2))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (3)$$

Assume the following.

$$k11_arytm_3 = k1_xboole_0 \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. (m1_subset_1 X0 k2_arytm_2) \Rightarrow ((k3_arytm_2 X0 \in \text{ReplSep} \\ & (\text{toset } (\lambda X1 : \iota. m1_subset_1 X1 k5_arytm_3)) (\lambda X1 : \iota. \\ & X1 \neq k11_arytm_3)) (\lambda X1 : \iota. \text{ReplSep } (\text{toset } (\lambda X2 : \iota. m1_subset_1 \\ & X2 k5_arytm_3)) (\lambda X2 : \iota. \neg r3_arytm_3 X1 X2)) (\lambda X2 : \iota. X2)) \Rightarrow \\ & (X0 \in k5_arytm_3) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k5_arytm_3) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 k5_arytm_3) \Rightarrow (\forall X2.((X2 \in k1_arytm_2) \wedge ((X0 \in X2) \wedge (r3_arytm_3 \\ X1 X0))) \Rightarrow (X1 \in X2))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k2_arytm_2) \Rightarrow ((k3_arytm_2 X0 = k11_arytm_3) \Leftrightarrow \\ (X0 = k11_arytm_3)) \quad (7)$$

Assume the following.

$$\neg v1_xboole_0 k5_arytm_3 \quad (8)$$

Assume the following.

$$\neg v1_xboole_0 k1_arytm_2 \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\ X2 X0 X1) \Rightarrow (m1_subset_1 X2 X0)) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k2_arytm_2) \Rightarrow (m2_subset_1 (k3_arytm_2 \\ X0) (k1_zfmisc_1 k5_arytm_3) k1_arytm_2) \quad (11)$$

Assume the following.

$$m1_subset_1 k1_arytm_2 (k1_zfmisc_1 (k1_zfmisc_1 k5_arytm_3)) \quad (12)$$

Assume the following.

$$m1_subset_1 k11_arytm_3 k5_arytm_3 \quad (13)$$

Assume the following.

$$\begin{aligned} k5_arytm_3 = k2_xboole_0 (k6_subset_1 (ReplSep2 (toset (\lambda X0 : \\ \iota.m1_subset_1 X0 k4_ordinal1)) (\lambda X0 : \iota.toset (\lambda X1 : \\ \iota.m1_subset_1 X1 k4_ordinal1)) (\lambda X0 : \iota.\lambda X1 : \iota.(r1_arytm_3 \\ X0 X1) \wedge (X1 \neq k1_xboole_0)) (\lambda X0 : \iota.\lambda X1 : \iota.k4_tarSKI \\ X0 X1)) (ReplSep (toset (\lambda X0 : \iota.m1_subset_1 X0 k4_ordinal1)) \\ (\lambda X0 : \iota.True) (\lambda X0 : \iota.k4_tarSKI X0 np_1))) k4_ordinal1 \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 k2_arytm_2) \Rightarrow (\forall X1.(m1_subset_1 \\
& X1 k2_arytm_2) \Rightarrow (((X0 \in k5_arytm_3) \wedge (X1 \in k5_arytm_3)) \Rightarrow ((r1_arytm_2 \\
& X0 X1) \Leftrightarrow (\exists X2.(m1_subset_1 X2 k5_arytm_3) \wedge (\exists X3.(\\
& m1_subset_1 X3 k5_arytm_3) \wedge ((X0 = X2) \wedge ((X1 = X3) \wedge (r3_arytm_3 X2 \\
& X3)))))) \wedge (((X0 \in k5_arytm_3) \Rightarrow ((X1 \in k5_arytm_3) \vee ((r1_arytm_2 \\
& X0 X1) \Leftrightarrow (X0 \in X1)))) \wedge (((X1 \in k5_arytm_3) \Rightarrow ((X0 \in k5_arytm_3) \vee ((r1_arytm_2 \\
& X0 X1) \Leftrightarrow (\neg X1 \in X0)))) \wedge (\neg(\neg(X0 \in k5_arytm_3) \wedge (X1 \in k5_arytm_3)) \wedge \\
& ((\neg(X0 \in k5_arytm_3) \wedge (\neg X1 \in k5_arytm_3)) \wedge ((\neg(\neg X0 \in k5_arytm_3) \wedge \\
& (X1 \in k5_arytm_3)) \wedge (\neg(r1_arytm_2 X0 X1) \Leftrightarrow (r1_tarski X0 X1))))))))) \\
& \tag{15}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 k2_arytm_2) \Rightarrow (\forall X1.(m2_subset_1 \\
& X1 (k1_zfmisc_1 k5_arytm_3) k1_arytm_2) \Rightarrow (((X0 \in k5_arytm_3) \Rightarrow \\
& ((X1 = k3_arytm_2 X0) \Leftrightarrow (\exists X2.(m1_subset_1 X2 k5_arytm_3) \wedge \\
& ((X0 = X2) \wedge (X1 = \text{ReplSep}(\text{toset}(\lambda X3 : \iota.m1_subset_1 X3 k5_arytm_3)) \\
& (\lambda X3 : \iota.\neg r3_arytm_3 X2 X3) (\lambda X3 : \iota.X3)))))) \wedge ((\neg X0 \in \\
& k5_arytm_3) \Rightarrow ((X1 = k3_arytm_2 X0) \Leftrightarrow (X1 = X0)))))) \\
& \tag{16}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& k1_arytm_2 = k6_subset_1 (\text{ReplSep}(\text{toset}(\lambda X0 : \iota.m1_subset_1 \\
& X0 (k1_zfmisc_1 k5_arytm_3))) (\lambda X0 : \iota.\forall X1.(m1_subset_1 \\
& X1 k5_arytm_3) \Rightarrow ((X1 \in X0) \Rightarrow ((\forall X2.(m1_subset_1 X2 k5_arytm_3) \Rightarrow \\
& ((r3_arytm_3 X2 X1) \Rightarrow (X2 \in X0))) \wedge (\exists X2.(m1_subset_1 X2 k5_arytm_3) \wedge \\
& ((X2 \in X0) \wedge (\neg r3_arytm_3 X2 X1)))))) (\lambda X0 : \iota.X0)) (k1_tarski \\
& k5_arytm_3)) \\
& \tag{17}
\end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1) \Leftrightarrow ((r1_tarski X0 X1) \wedge (r1_tarski X1 X0)) \tag{18}$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k5_arytm_3) \wedge (m1_subset_1 X1 k5_arytm_3)) \Rightarrow ((r3_arytm_3 X0 X1) \vee (r3_arytm_3 X1 X0)) \tag{19}$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k2_arytm_2) \wedge (m1_subset_1 X1 k2_arytm_2)) \Rightarrow ((r1_arytm_2 X0 X1) \vee (r1_arytm_2 X1 X0)) \tag{20}$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_xboole_0 X1)) \tag{21}$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1\ X0\ k2_arytm_2) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1\ k2_arytm_2) \Rightarrow ((r1_tarski\ (k3_arytm_2\ X0)\ (k3_arytm_2\ X1)) \Rightarrow \\ & (r1_arytm_2\ X0\ X1))) \end{aligned}$$