

l29_arytm_2
(TMT7ACZHQoyWH2M8VArcZnC11uQPMnm71US)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_arytm_2 : \iota$ be given. Let $k3_arytm_2 : \iota \Rightarrow \iota$ be given. Let $k5_arytm_3 : \iota$ be given. Let $r3_arytm_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k11_arytm_3 : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ 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 $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k1_arytm_2 : \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ 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.

$$\forall X0. \forall X1. k6_subset_1 X0 X1 = k4_xboole_0 X0 X1 \quad (2)$$

Assume the following.

$$\neg v1_xboole_0 k2_arytm_2 \quad (3)$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 k2_arytm_2) \Rightarrow (m2_subset_1 (k3_arytm_2 X0) (k1_zfmisc_1 k5_arytm_3) k1_arytm_2) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (X2 = k4_xboole_0 X0 X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (\neg X3 \in X1))) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. (m1_subset_1 X0 k2_arytm_2) \Rightarrow (\forall X1. (m2_subset_1 \\ & X1 (k1_zfmisc_1 k5_arytm_3) k1_arytm_2) \Rightarrow (((X0 \in k5_arytm_3) \Rightarrow \\ & ((X1 = k3_arytm_2 X0) \Leftrightarrow (\exists X2. (m1_subset_1 X2 k5_arytm_3) \wedge \\ & ((X0 = X2) \wedge (X1 = \text{ReplSep} (\text{toset} (\lambda X3 : \iota. m1_subset_1 X3 k5_arytm_3)) \\ & (\lambda X3 : \iota. \neg r3_arytm_3 X2 X3) (\lambda X3 : \iota. X3)))))) \wedge ((\neg X0 \in \\ & k5_arytm_3) \Rightarrow ((X1 = k3_arytm_2 X0) \Leftrightarrow (X1 = X0)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned}
& k2_arytm_2 = k6_subset_1 (k2_xboole_0 k5_arytm_3 k1_arytm_2) \\
& (ReplSep (toset (\lambda X0 : \iota.m1_subset_1 X0 k5_arytm_3)) (\lambda X0 : \\
& \quad \iota.X0 \neq k11_arytm_3) (\lambda X0 : \iota.ReplSep (toset (\lambda X1 : \iota. \\
& m1_subset_1 X1 k5_arytm_3)) (\lambda X1 : \iota.\neg r3_arytm_3 X0 X1) (\lambda X1 : \\
& \quad \iota.X1))) \tag{7}
\end{aligned}$$

Theorem 1

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