t33_arytm_3 (TMZhiWbJpoiX75nyXduW1TLs6uZZLutj3Gf)

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Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4\_ordinal1 : \iota$ be given. Let $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_arytm\_3 : \iota$ 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 $k6\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3\_ordinal1 : \iota \Rightarrow o$ be given. Let $v7\_ordinal1 : \iota \Rightarrow o$ be given. Let $c2\_\_arytm\_3 : \iota$ be given. Let $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_tarski : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\neg k4\_tarski\ X0\ X1 \in k4\_ordinal1 \tag{1}$$

Assume the following.

$$\begin{gathered}\forall X0.\forall X1.\forall X2.\forall X3.(k4\_tarski\ X0\ X1 = \\ k4\_tarski\ X2\ X3) \Rightarrow ((X0 = X2) \wedge (X1 = X3))\end{gathered} \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.k6\_subset\_1\ X0\ X1 = k4\_xboole\_0\ X0\ X1 \tag{3}$$

Assume the following.

$$\begin{gathered}\forall X0.((v3\_ordinal1\ X0) \wedge (v7\_ordinal1\ X0)) \Rightarrow (\forall X1. \\ ((v3\_ordinal1\ X1) \wedge (v7\_ordinal1\ X1)) \Rightarrow ((k4\_tarski\ X0\ X1 \in c2\_\_arytm\_3) \Rightarrow \\ ((r1\_arytm\_3\ X0\ X1) \wedge (X1 \neq k1\_xboole\_0))))\end{gathered} \tag{4}$$

Assume the following.

$$\begin{gathered}c2\_\_arytm\_3 = ReplSep2\ (toset\ (\lambda X0 : \iota.m1\_subset\_1\ X0\ k4\_ordinal1)) \\ (\lambda X0 : \iota.toset\ (\lambda X1 : \iota.m1\_subset\_1\ X1\ k4\_ordinal1)) \\ (\lambda X0 : \iota.\lambda X1 : \iota.(r1\_arytm\_3\ X0\ X1) \wedge (X1 \neq k1\_xboole\_0)) \\ (\lambda X0 : \iota.\lambda X1 : \iota.k4\_tarski\ X0\ X1)\end{gathered} \tag{5}$$

Assume the following.

$$k5\_arytm\_3 = k2\_xboole\_0\ (k6\_subset\_1\ (ReplSep2\ (toset\ (\lambda X0 : \iota.m1\_subset\_1\ X0\ k4\_ordinal1))\ (\lambda X0 : \iota.toset\ (\lambda X1 : \iota.m1\_subset\_1\ X1\ k4\_ordinal1))\ (\lambda X0 : \iota.\lambda X1 : \iota.(r1\_arytm\_3\ X0\ X1) \wedge (X1 \neq k1\_xboole\_0))\ (\lambda X0 : \iota.\lambda X1 : \iota.k4\_tarski\ X0\ X1))\ (ReplSep\ (toset\ (\lambda X0 : \iota.m1\_subset\_1\ X0\ k4\_ordinal1))\ (\lambda X0 : \iota.True)\ (\lambda X0 : \iota.k4\_tarski\ X0\ np\_\_1)))\ k4\_ordinal1 \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k4\_xboole\_0\ X0\ X1) \Leftrightarrow (\forall X3.(X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (\neg X3 \in X1))) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.k4\_tarski\ X0\ X1 = k2\_tarski\ (k2\_tarski\ X0\ X1)\ (k1\_tarski\ X0) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k2\_xboole\_0\ X0\ X1) \Leftrightarrow (\forall X3.(X3 \in X2) \Leftrightarrow ((X3 \in X0) \vee (X3 \in X1))) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.k2\_xboole\_0\ X0\ X1 = k2\_xboole\_0\ X1\ X0 \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.k2\_tarski\ X0\ X1 = k2\_tarski\ X1\ X0 \tag{11}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k4\_ordinal1) \Rightarrow (v7\_ordinal1\ X0) \tag{12}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (v3\_ordinal1\ X0) \tag{13}$$

Theorem 1

$$\forall X0.(m1\_subset\_1\ X0\ k4\_ordinal1) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ k4\_ordinal1) \Rightarrow ((k4\_tarski\ X0\ X1 \in k5\_arytm\_3) \Leftrightarrow ((r1\_arytm\_3\ X0\ X1) \wedge ((X1 \neq k1\_xboole\_0) \wedge (X1 \neq np\_\_1)))))$$