t71_zfmisc_1 (TMZdDkaNYmSujHh4xcv9cR9GMJcdeRBRMsW)

October 27, 2020

Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$ 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. Let $k1\_xboole\_0 : \iota$ be given. Assume the following.

$$\forall X0.\forall X1.(r1\_tarski\ X0\ X1) \Rightarrow (r1\_tarski\ (k1\_zfmisc\_1\ X0)\ (k1\_zfmisc\_1\ X1)) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(\neg(\neg r1\_xboole\_0\ X0\ X1) \wedge (\forall X2.\neg X2 \in k3\_xboole\_0\ X0\ X1)) \wedge (\neg(\exists X2.X2 \in k3\_xboole\_0\ X0\ X1) \wedge (r1\_xboole\_0\ X0\ X1)) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.r1\_tarski\ (k2\_xboole\_0\ (k3\_xboole\_0\ X0\ X1)\ (k3\_xboole\_0\ X0\ X2))\ (k2\_xboole\_0\ X1\ X2) \tag{3}$$

Assume the following.

$$\forall X0.k2\_tarski\ X0\ X0 = k1\_tarski\ X0 \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski\ X0\ X1) \Rightarrow (k3\_xboole\_0\ X0\ X1 = X0) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k3\_xboole\_0\ X0\ (k2\_xboole\_0\ X1\ X2) = k2\_xboole\_0\ (k3\_xboole\_0\ X0\ X1)\ (k3\_xboole\_0\ X0\ X2) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.k2\_xboole\_0\ X0\ (k3\_xboole\_0\ X0\ X1) = X0 \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((r1\_tarski\ X0\ X1)\wedge(r1\_tarski\ X0\ X2))\Rightarrow(r1\_tarski\ X0\ (k3\_xboole\_0\ X1\ X2)) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.r1\_tarski\ X0\ X0 \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.(\neg X0 \in X1)\Rightarrow(r1\_xboole\_0\ (k1\_tarski\ X0)\ X1) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.(r1\_xboole\_0\ X0\ X1)\Leftrightarrow(k3\_xboole\_0\ X0\ X1 = k1\_xboole\_0) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k3\_xboole\_0\ X0\ X1)\Leftrightarrow(\forall X3.(X3 \in X2)\Leftrightarrow((X3 \in X0)\wedge(X3 \in X1))) \tag{12}$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski\ X0\ X1)\Leftrightarrow(\forall X2.(X2 \in X0)\Rightarrow(X2 \in X1)) \tag{13}$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k1\_zfmisc\_1\ X0)\Leftrightarrow(\forall X2.(X2 \in X1)\Leftrightarrow(r1\_tarski\ X2\ X0)) \tag{14}$$

Assume the following.

$$\forall X0.\forall X1.k3\_xboole\_0\ X0\ X1 = k3\_xboole\_0\ X1\ X0 \tag{15}$$

Theorem 1

$$\forall X0.\forall X1.k1\_zfmisc\_1\ (k3\_xboole\_0\ X0\ X1) = k3\_xboole\_0\ (k1\_zfmisc\_1\ X0)\ (k1\_zfmisc\_1\ X1)$$