t7_supinf_1 (TMbzAKckSYypsF2Vo9ude1oG2DjzB9ypsiU)

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Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v1\_setfam\_1 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k7\_numbers : \iota$ be given. Let $v2\_membered : \iota \Rightarrow o$ be given. Let $k5\_setfam\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2\_xxreal\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_xxreal\_2 : \iota \Rightarrow \iota$ be given. Let $k6\_supinf\_1 : \iota \Rightarrow \iota$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3\_tarski : \iota \Rightarrow \iota$ be given. Let $v1\_xxreal\_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v2\_membered\ X0) \Rightarrow (\forall X1.(v2\_membered\ X1) \Rightarrow ((r1\_tarski\ X0\ X1) \Rightarrow (r1\_xxreal\_0\ (k2\_xxreal\_2\ X1)\ (k2\_xxreal\_2\ X0)))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ X0))) \Rightarrow (k5\_setfam\_1\ X0\ X1 = k3\_tarski\ X1) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0\ X0) \wedge ((v1\_setfam\_1\ X0) \wedge (m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ k7\_numbers))))) \Rightarrow ((\neg v1\_xboole\_0\ (k6\_supinf\_1\ X0)) \wedge (v2\_membered\ (k6\_supinf\_1\ X0))) \tag{3}$$

Assume the following.

$$\forall X0.(v2\_membered\ X0) \Rightarrow (v1\_xxreal\_0\ (k2\_xxreal\_2\ X0)) \tag{4}$$

Assume the following.

$$\forall X0.(v2\_membered\ X0) \Rightarrow (\forall X1.(r1\_tarski\ X0\ X1) \Leftrightarrow (\forall X2.(v1\_xxreal\_0\ X2) \Rightarrow ((X2 \in X0) \Rightarrow (X2 \in X1)))) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k3\_tarski\ X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (\exists X3.(X2 \in X3) \wedge (X3 \in X0))) \tag{6}$$

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0\ X0)\wedge((v1\_setfam\_1\ X0)\wedge(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ k7\_numbers)))))\Rightarrow(\forall X1.(v2\_membered\ X1)\Rightarrow((X1 = k6\_supinf\_1\ X0)\Leftrightarrow(\forall X2.(v1\_xxreal\_0\ X2)\Rightarrow((X2 \in X1)\Leftrightarrow(\exists X3.((\neg v1\_xboole\_0\ X3)\wedge(v2\_membered\ X3))\wedge((X3 \in X0)\wedge(X2 = k2\_xxreal\_2\ X3)))))))) \tag{7}$$

Assume the following.

$$\forall X0.(v2\_membered\ X0)\Rightarrow(\forall X1.(v1\_xxreal\_0\ X1)\Rightarrow((m2\_xxreal\_2\ X1\ X0)\Leftrightarrow(\forall X2.(v1\_xxreal\_0\ X2)\Rightarrow((X2 \in X0)\Rightarrow(r1\_xxreal\_0\ X1\ X2))))) \tag{8}$$

Theorem 1

$$\forall X0.((\neg v1\_xboole\_0\ X0)\wedge((v1\_setfam\_1\ X0)\wedge(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ k7\_numbers)))))\Rightarrow(\forall X1.((\neg v1\_xboole\_0\ X1)\wedge(v2\_membered\ X1))\Rightarrow((X1 = k5\_setfam\_1\ k7\_numbers\ X0)\Rightarrow(m2\_xxreal\_2\ (k2\_xxreal\_2\ X1)\ (k6\_supinf\_1\ X0))))$$