t20_supinf_2 (TMTzFDJLq5fydEuGqK5N9bio7zrQmF8EYjt)

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Let $v1\_xboole\_0 : \iota \Rightarrow o$ 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 $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11\_supinf\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_supinf\_2 : \iota \Rightarrow \iota$ be given. Let $k14\_supinf\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_supinf\_2 : \iota \Rightarrow \iota$ be given. Let $k10\_supinf\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9\_supinf\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8\_supinf\_2 : \iota \Rightarrow \iota$ be given. Let $k7\_supinf\_2 : \iota \Rightarrow \iota$ be given. Let $k10\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k4\_member\_1 : \iota \Rightarrow \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2\_membered : \iota \Rightarrow o$ be given. Let $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.((\neg v1\_xboole\_0\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ k7\_numbers))) \Rightarrow (\forall X2.((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ X0\ X1) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))) \Rightarrow (k9\_supinf\_2\ X0\ (k6\_supinf\_2\ X1)\ (k14\_supinf\_2\ X0\ X1\ X2) = k6\_supinf\_2\ (k9\_supinf\_2\ X0\ X1\ X2))))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0\ X0) \wedge (m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ k7\_numbers))) \Rightarrow (k8\_supinf\_2\ (k6\_supinf\_2\ X0) = k2\_supinf\_2\ (k7\_supinf\_2\ X0)) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0\ X0) \wedge (m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ k7\_numbers))) \Rightarrow (k7\_supinf\_2\ (k6\_supinf\_2\ X0) = k2\_supinf\_2\ (k8\_supinf\_2\ X0)) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0) \wedge (((\neg v1\_xboole\_0\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ k7\_numbers))) \wedge ((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ X0\ X1) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))))) \Rightarrow (k9\_supinf\_2\ X0\ X1\ X2 = k10\_xtuple\_0\ X2) \tag{4}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ k7\_numbers))\Rightarrow(k6\_supinf\_2\ X0 = k4\_member\_1\ X0) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge(v5\_relat\_1\ X1\ X0))\Rightarrow(k2\_relset\_1\ X0\ X1 = k10\_xtuple\_0\ X1) \tag{6}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ k7\_numbers))\Rightarrow(k6\_supinf\_2\ (k6\_supinf\_2\ X0) = X0) \tag{7}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow((v1\_xboole\_0\ (k4\_member\_1\ X0))\wedge(v2\_membered\ (k4\_member\_1\ X0))) \tag{8}$$

Assume the following.

$$v2\_membered\ k7\_numbers \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0)\wedge(((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ k7\_numbers)))\wedge((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ X0\ X1)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))))\Rightarrow((\neg v1\_xboole\_0\ (k9\_supinf\_2\ X0\ X1\ X2))\wedge(m1\_subset\_1\ (k9\_supinf\_2\ X0\ X1\ X2)\ (k1\_zfmisc\_1\ k7\_numbers))) \tag{10}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ k7\_numbers))\Rightarrow(m1\_subset\_1\ (k6\_supinf\_2\ X0)\ (k1\_zfmisc\_1\ k7\_numbers)) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0)\wedge(((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ k7\_numbers)))\wedge((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ X0\ X1)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))))\Rightarrow((v1\_funct\_1\ (k14\_supinf\_2\ X0\ X1\ X2))\wedge((v1\_funct\_2\ (k14\_supinf\_2\ X0\ X1\ X2)\ X0\ (k6\_supinf\_2\ X1))\wedge(m1\_subset\_1\ (k14\_supinf\_2\ X0\ X1\ X2)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ (k6\_supinf\_2\ X1)))))) \tag{12}$$

Assume the following.

$$\forall X0.(v2\_membered\ X0)\Rightarrow(\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ X0))\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ X2))))\Rightarrow(k11\_supinf\_2\ X0\ X1\ X2\ X3 = k7\_supinf\_2\ (k2\_relset\_1\ X2\ X3)))) \tag{13}$$

Assume the following.

$$\forall X0.(v2\_membered\ X0)\Rightarrow(\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ X0))\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ X2))))\Rightarrow(k10\_supinf\_2\ X0\ X1\ X2\ X3 = k8\_supinf\_2\ (k2\_relset\_1\ X2\ X3)))) \tag{14}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow((v4\_relat\_1\ X2\ X0)\wedge(v5\_relat\_1\ X2\ X1)) \tag{15}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v1\_relat\_1\ X2) \tag{16}$$

Theorem 1

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ k7\_numbers)))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ X0\ X1)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))))\Rightarrow((k11\_supinf\_2\ k7\_numbers\ X0\ (k6\_supinf\_2\ X1)\ (k14\_supinf\_2\ X0\ X1\ X2) = k2\_supinf\_2\ (k10\_supinf\_2\ k7\_numbers\ X0\ X1\ X2))\wedge(k10\_supinf\_2\ k7\_numbers\ X0\ (k6\_supinf\_2\ X1)\ (k14\_supinf\_2\ X0\ X1\ X2) = k2\_supinf\_2\ (k11\_supinf\_2\ k7\_numbers\ X0\ X1\ X2)))))$$