t20_borsuk_6 (TMNs1afi7e1jf4ZefrLQnqRJ3XtNSZTQNC4)

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Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k2\_borsuk\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_topmetr : \iota$ be given. Let $k15\_euclid : \iota \Rightarrow \iota$ be given. Let $np\_\_2 : \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_numbers : \iota$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v7\_ordinal1 : \iota \Rightarrow o$ be given. Let $k1\_euclid : \iota \Rightarrow \iota$ be given. Let $k4\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2\_xxreal\_0 : \iota \Rightarrow o$ be given. Let $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_numbers : \iota$ be given. Let $k2\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4\_ordinal1 : \iota$ be given. Let $k1\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v6\_membered : \iota \Rightarrow o$ be given. Let $v2\_pre\_topc : \iota \Rightarrow o$ be given. Let $l1\_pre\_topc : \iota \Rightarrow o$ be given. Let $v1\_pre\_topc : \iota \Rightarrow o$ be given. Let $u1\_pre\_topc : \iota \Rightarrow \iota$ be given. Let $k5\_setfam\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8\_mcart\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X0\ X1) \Rightarrow ((v1\_xboole\_0\ X1) \vee (X0 \in X1)) \tag{1}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (u1\_struct\_0\ (k15\_euclid\ X0) = k1\_euclid\ X0) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1\_subset\_1\ X0\ X1) \tag{3}$$

Assume the following.

$$u1\_struct\_0\ k3\_topmetr = k1\_numbers \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(X1 \in k4\_finseq\_2\ np\_\_2\ X0) \Leftrightarrow (\exists X2.\ \exists X3.(X2 \in X0) \wedge ((X3 \in X0) \wedge (X1 = k10\_finseq\_1\ X2\ X3))) \tag{5}$$

Assume the following.

$$((v2\_xxreal\_0\ np\_\_2)\wedge(m2\_subset\_1\ np\_\_2\ k1\_numbers\ k5\_numbers))\wedge((m1\_subset\_1\ np\_\_2\ k5\_numbers)\wedge(m1\_subset\_1\ np\_\_2\ k1\_numbers)) \tag{6}$$

Assume the following.

$$\forall X0 : \iota\Rightarrow\iota\Rightarrow\iota\Rightarrow o.\forall X1.\forall X2.\forall X3.(\forall X4.(m1\_subset\_1\ X4\ X3)\Rightarrow(\forall X5.(m1\_subset\_1\ X5\ X2)\Rightarrow(\exists X6.(m1\_subset\_1\ X6\ X1)\wedge(X0\ X4\ X5\ X6))))\Rightarrow(\exists X4.((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ (k2\_zfmisc\_1\ X3\ X2)\ X1)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X3\ X2)\ X1)))))\wedge(\forall X5.(m1\_subset\_1\ X5\ X3)\Rightarrow(\forall X6.(m1\_subset\_1\ X6\ X2)\Rightarrow(X0\ X5\ X6\ (k2\_binop\_1\ X3\ X2\ X1\ X4\ X5\ X6))))) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_2\ X1\ X0)\Rightarrow(\forall X2.(m2\_finseq\_2\ X2\ X0\ X1)\Leftrightarrow(m1\_subset\_1\ X2\ X1)) \tag{8}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5.((\neg v1\_xboole\_0\ X0)\wedge((\neg v1\_xboole\_0\ X1)\wedge(((v1\_funct\_1\ X3)\wedge(v1\_funct\_2\ X3\ (k2\_zfmisc\_1\ X0\ X1)\ X2)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)\ X2)))))\wedge((m1\_subset\_1\ X4\ X0)\wedge(m1\_subset\_1\ X5\ X1)))))\Rightarrow(k2\_binop\_1\ X0\ X1\ X2\ X3\ X4\ X5 = k1\_binop\_1\ X3\ X4\ X5) \tag{10}$$

Assume the following.

$$v6\_membered\ k4\_ordinal1 \tag{11}$$

Assume the following.

$$\neg v1\_xboole\_0\ k1\_numbers \tag{12}$$

Assume the following.

$$(v2\_pre\_topc\ k3\_topmetr)\wedge(l1\_pre\_topc\ k3\_topmetr) \tag{13}$$

Assume the following.

$$\forall X0.\forall X1.(((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0))\wedge((v2\_pre\_topc\ X1)\wedge(l1\_pre\_topc\ X1)))\Rightarrow((v1\_pre\_topc\ (k2\_borsuk\_1\ X0\ X1))\wedge((v2\_pre\_topc\ (k2\_borsuk\_1\ X0\ X1))\wedge(l1\_pre\_topc\ (k2\_borsuk\_1\ X0\ X1)))) \tag{14}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(m1\_finseq\_2\ (k1\_euclid\ X0)\ k1\_numbers) \quad (15)$$

Assume the following.

$$\forall X0.((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0))\Rightarrow(\forall X1.((v2\_pre\_topc\ X1)\wedge(l1\_pre\_topc\ X1))\Rightarrow(\forall X2.((v1\_pre\_topc\ X2)\wedge((v2\_pre\_topc\ X2)\wedge(l1\_pre\_topc\ X2)))\Rightarrow((X2 = k2\_borsuk\_1\ X0\ X1)\Leftrightarrow((u1\_struct\_0\ X2 = k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))\wedge(u1\_pre\_topc\ X2 = ReplSep\ (toset\ (\lambda X3 : \iota.m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X2))))))\ (\lambda X3 : \iota.r1\_tarski\ X3\ (ReplSep2\ (toset\ (\lambda X4 : \iota.m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\ (\lambda X4 : \iota.toset\ (\lambda X5 : \iota.m1\_subset\_1\ X5\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X1))))\ (\lambda X4 : \iota.\lambda X5 : \iota.(X4 \in u1\_pre\_topc\ X0)\wedge(X5 \in u1\_pre\_topc\ X1))\ (\lambda X4 : \iota.\lambda X5 : \iota.k8\_mcart\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ X4\ X5)))\ (\lambda X3 : \iota.k5\_setfam\_1\ (u1\_struct\_0\ X2)\ X3)))))) \quad (16)$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(k1\_euclid\ X0 = k4\_finseq\_2\ X0\ k1\_numbers) \quad (17)$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v1\_funct\_1\ X0))\Rightarrow(\forall X1.\forall X2.\ k1\_binop\_1\ X0\ X1\ X2 = k1\_funct\_1\ X0\ (k4\_tarski\ X1\ X2)) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v1\_relat\_1\ X2) \quad (19)$$

Assume the following.

$$\forall X0.(v6\_membered\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ X0)\Rightarrow(v7\_ordinal1\ X1)) \quad (20)$$

Theorem 1

$$\exists X0.((v1\_funct\_1\ X0)\wedge((v1\_funct\_2\ X0\ (u1\_struct\_0\ (k2\_borsuk\_1\ k3\_topmetr\ k3\_topmetr))\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2)))\wedge(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ (k2\_borsuk\_1\ k3\_topmetr\ k3\_topmetr))\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2)))))))\wedge(\forall X1.(m1\_subset\_1\ X1\ k1\_numbers)\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ k1\_numbers)\Rightarrow(k1\_funct\_1\ X0\ (k4\_tarski\ X1\ X2) = k10\_finseq\_1\ X1\ X2)))$$