t3_euclid_4 (TMcLhr2jBaeSJNB9Cb9zEuY5uzypkjC9CHo)

October 27, 2020

Let $v7\_ordinal1 : \iota \Rightarrow o$ be given. Let $m2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_numbers : \iota$ be given. Let $k1\_euclid : \iota \Rightarrow \iota$ be given. Let $k9\_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np\_\_1 : \iota$ be given. Let $k6\_numbers : \iota$ be given. Let $k5\_euclid : \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v3\_valued\_0 : \iota \Rightarrow o$ be given. Let $v1\_finseq\_1 : \iota \Rightarrow o$ be given. Let $k10\_rvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9\_rvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_rvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_numbers : \iota$ be given. Let $k4\_ordinal1 : \iota$ be given. Let $k7\_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $m1\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k45\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_xreal\_0 : \iota \Rightarrow o$ be given. Let $k24\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_euclid : \iota \Rightarrow \iota$ be given. Let $k11\_rvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_xcmplx\_0 : \iota \Rightarrow o$ be given. Let $v1\_xxreal\_0 : \iota \Rightarrow o$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_valued\_0 : \iota \Rightarrow o$ be given. Let $v2\_valued\_0 : \iota \Rightarrow o$ be given. Let $v4\_valued\_0 : \iota \Rightarrow o$ be given. Let $v5\_valued\_0 : \iota \Rightarrow o$ be given. Let $v3\_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0) \Rightarrow (X0 = k1\_xboole\_0) \tag{1}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge ((v1\_funct\_1\ X0) \wedge ((v3\_valued\_0\ X0) \wedge (v1\_finseq\_1\ X0)))) \Rightarrow (k10\_rvsum\_1\ X0\ np\_\_1 = X0) \tag{2}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.(m2\_finseq\_2\ X1\ k1\_numbers\ (k4\_finseq\_2\ X0\ k1\_numbers))\Rightarrow(\forall X2.(m2\_finseq\_2\ X2\ k1\_numbers\ (k4\_finseq\_2\ X0\ k1\_numbers))\Rightarrow(X1 = k9\_rvsum\_1\ X0\ (k5\_rvsum\_1\ X0\ X1\ X2)\ X2))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ X1))\Leftrightarrow(r1\_tarski\ X0\ X1) \tag{4}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.(m2\_finseq\_2\ X1\ k1\_numbers\ (k4\_finseq\_2\ X0\ k1\_numbers))\Rightarrow(k9\_rvsum\_1\ X0\ X1\ X1 = k5\_finseq\_2\ k5\_numbers\ X0\ k6\_numbers)) \tag{5}$$

Assume the following.

$$m1\_subset\_1\ k1\_xboole\_0\ k4\_ordinal1 \tag{6}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.(m2\_finseq\_2\ X1\ k1\_numbers\ (k1\_euclid\ X0))\Rightarrow((k7\_euclid\ X0\ (k9\_euclid\ X0\ X1\ k6\_numbers)\ X1 = X1)\wedge(k7\_euclid\ X0\ X1\ (k5\_euclid\ X0) = X1))) \tag{7}$$

Assume the following.

$$((v2\_xxreal\_0\ np\_\_1)\wedge(m2\_subset\_1\ np\_\_1\ k1\_numbers\ k5\_numbers))\wedge((m1\_subset\_1\ np\_\_1\ k5\_numbers)\wedge(m1\_subset\_1\ np\_\_1\ k1\_numbers)) \tag{8}$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_2\ X1\ X0)\Rightarrow(\forall X2.(m2\_finseq\_2\ X2\ X0\ X1)\Leftrightarrow(m1\_subset\_1\ X2\ X1)) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1\ X1\ X0)\Leftrightarrow(m1\_finseq\_1\ X1\ X0) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7\_ordinal1\ X0)\wedge((m1\_subset\_1\ X1\ (k4\_finseq\_2\ X0\ k1\_numbers))\wedge(m1\_subset\_1\ X2\ (k4\_finseq\_2\ X0\ k1\_numbers))))\Rightarrow(k9\_rvsum\_1\ X0\ X1\ X2 = k45\_valued\_1\ X1\ X2) \tag{12}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7\_ordinal1\ X0)\wedge((m1\_subset\_1\ X1\ (k1\_euclid\ X0))\wedge(v1\_xreal\_0\ X2)))\Rightarrow(k9\_euclid\ X0\ X1\ X2 = k24\_valued\_1\ X1\ X2) \tag{13}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7\_ordinal1\ X0)\wedge((m1\_subset\_1\ X1\ (k1\_euclid\ X0))\wedge(m1\_subset\_1\ X2\ (k1\_euclid\ X0))))\Rightarrow(k7\_euclid\ X0\ X1\ X2 = k1\_valued\_1\ X1\ X2) \tag{14}$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \tag{15}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7\_ordinal1\ X0)\wedge((m1\_subset\_1\ X1\ (k4\_finseq\_2\ X0\ k1\_numbers))\wedge(m1\_subset\_1\ X2\ (k4\_finseq\_2\ X0\ k1\_numbers))))\Rightarrow(k5\_rvsum\_1\ X0\ X1\ X2 = k1\_valued\_1\ X1\ X2) \tag{16}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{17}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0)\wedge((v7\_ordinal1\ X1)\wedge(m1\_subset\_1\ X2\ X0)))\Rightarrow(k5\_finseq\_2\ X0\ X1\ X2 = k2\_finseq\_2\ X1\ X2) \tag{18}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(k5\_euclid\ X0 = k4\_euclid\ X0) \tag{19}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7\_ordinal1\ X0)\wedge((m1\_subset\_1\ X1\ (k4\_finseq\_2\ X0\ k1\_numbers))\wedge(v1\_xreal\_0\ X2)))\Rightarrow(k11\_rvsum\_1\ X0\ X1\ X2 = k24\_valued\_1\ X1\ X2) \tag{20}$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge((v3\_valued\_0\ X0)\wedge(v1\_finseq\_1\ X0))))\wedge(v1\_xreal\_0\ X1))\Rightarrow(k10\_rvsum\_1\ X0\ X1 = k24\_valued\_1\ X0\ X1) \tag{21}$$

Assume the following.

$$\exists X0.(v1\_xboole\_0\ X0)\wedge((v1\_xcmplx\_0\ X0)\wedge((v1\_xxreal\_0\ X0)\wedge(v1\_xreal\_0\ X0))) \tag{22}$$

Assume the following.

$$\exists X0.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ k5\_numbers)))\wedge((\neg v1\_xboole\_0\ X0)\wedge((v1\_relat\_1\ X0)\wedge((v4\_relat\_1\ X0\ k5\_numbers)\wedge((v5\_relat\_1\ X0\ k5\_numbers)\wedge((v1\_funct\_1\ X0)\wedge((v1\_partfun1\ X0\ k5\_numbers)\wedge((v1\_funct\_2\ X0\ k5\_numbers\ k5\_numbers)\wedge((v1\_valued\_0\ X0)\wedge((v2\_valued\_0\ X0)\wedge((v3\_valued\_0\ X0)\wedge((v4\_valued\_0\ X0)\wedge(v5\_valued\_0\ X0))))))))))) \tag{23}$$

Assume the following.

$$\forall X0.\forall X1.(v3\_membered\ X1)\Rightarrow(v3\_valued\_0\ (k2\_zfmisc\_1\ X0\ X1)) \tag{24}$$

Assume the following.

$$v3\_membered\ k1\_numbers \tag{25}$$

Assume the following.

$$\neg v1\_xboole\_0\ k1\_numbers \tag{26}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))))\Rightarrow(\forall X2.(m2\_subset\_1\ X2\ X0\ X1)\Rightarrow(m1\_subset\_1\ X2\ X0)) \tag{27}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_2\ X1\ X0)\Rightarrow(\forall X2.(m2\_finseq\_2\ X2\ X0\ X1)\Rightarrow(m2\_finseq\_1\ X2\ X0)) \tag{28}$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1\ X1\ X0)\Rightarrow((v1\_funct\_1\ X1)\wedge((v1\_finseq\_1\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ X0))))) \tag{29}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_1\ X1\ X0)\Rightarrow((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v1\_finseq\_1\ X1))) \tag{30}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7\_ordinal1\ X0)\wedge((m1\_subset\_1\ X1\ (k1\_euclid\ X0))\wedge(v1\_xreal\_0\ X2)))\Rightarrow(m2\_finseq\_2\ (k9\_euclid\ X0\ X1\ X2)\ k1\_numbers\ (k1\_euclid\ X0)) \tag{31}$$

Assume the following.

$$m2\_subset\_1\ k6\_numbers\ k1\_numbers\ k5\_numbers \tag{32}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7\_ordinal1\ X0)\wedge((m1\_subset\_1\ X1\ (k4\_finseq\_2\ X0\ k1\_numbers))\wedge(m1\_subset\_1\ X2\ (k4\_finseq\_2\ X0\ k1\_numbers))))\Rightarrow(m2\_finseq\_2\ (k5\_rvsum\_1\ X0\ X1\ X2)\ k1\_numbers\ (k4\_finseq\_2\ X0\ k1\_numbers)) \tag{33}$$

Assume the following.

$$m1\_subset\_1\ k5\_numbers\ (k1\_zfmisc\_1\ k1\_numbers) \tag{34}$$

Assume the following.

$$\forall X0.\forall X1.(v7\_ordinal1\ X0)\Rightarrow(m1\_finseq\_2\ (k4\_finseq\_2\ X0\ X1)\ X1) \tag{35}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7\_ordinal1\ X0)\wedge((m1\_subset\_1\ X1\ (k4\_finseq\_2\ X0\ k1\_numbers))\wedge(v1\_xreal\_0\ X2)))\Rightarrow(m2\_finseq\_2\ (k11\_rvsum\_1\ X0\ X1\ X2)\ k1\_numbers\ (k4\_finseq\_2\ X0\ k1\_numbers)) \tag{36}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(k4\_euclid\ X0 = k5\_finseq\_2\ k1\_numbers\ X0\ k6\_numbers) \tag{37}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(k1\_euclid\ X0 = k4\_finseq\_2\ X0\ k1\_numbers) \tag{38}$$

Assume the following.

$$\forall X0.\forall X1.(v1\_xboole\_0\ X0)\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ X0)))\Rightarrow(v1\_xboole\_0\ X2)) \tag{39}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v1\_relat\_1\ X2) \tag{40}$$

Assume the following.

$$\forall X0.(v3\_membered\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ X0)\Rightarrow(v1\_xreal\_0\ X1)) \tag{41}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v3\_valued\_0\ X0))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\Rightarrow(v3\_valued\_0\ X1)) \tag{42}$$

Theorem 1

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(m2\_finseq\_2\ X1\ k1\_numbers\ (k1\_euclid\ X0)) \Rightarrow ((k9\_euclid\ X0\ X1\ np\_\_1 = X1) \wedge (k9\_euclid\ X0\ X1\ k6\_numbers = k5\_euclid\ X0)))$$