t9_pdiff_4 (TMKu4hMUwVxGYphQHBWs8t5y9BeW3QB8hPj)

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Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_euclid : \iota \Rightarrow \iota$ be given. Let $np\_\_3 : \iota$ be given. Let $k1\_numbers : \iota$ be given. Let $m2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k11\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_fdiff\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_pdiff\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r3\_pdiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_pdiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_rvsum\_1 : \iota \Rightarrow \iota$ be given. Let $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v3\_card\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $m1\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4\_ordinal1 : \iota$ be given. Let $v7\_ordinal1 : \iota \Rightarrow o$ be given. Let $k1\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_pdiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$(k1\_relset\_1\ (k1\_euclid\ np\_\_3)\ (k1\_pdiff\_1\ np\_\_3\ np\_\_3) = k1\_euclid\ np\_\_3) \wedge ((k1\_rvsum\_1\ (k1\_pdiff\_1\ np\_\_3\ np\_\_3) = k1\_numbers) \wedge (\forall X0.(m1\_subset\_1\ X0\ k1\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ k1\_numbers) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ k1\_numbers) \Rightarrow (k1\_seq\_1\ (k1\_pdiff\_1\ np\_\_3\ np\_\_3)\ (k11\_finseq\_1\ X0\ X1\ X2) = X2))))) \tag{1}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.((v3\_card\_1\ X1\ np\_\_3) \wedge (m2\_finseq\_1\ X1\ X0)) \Rightarrow (\exists X2.(m1\_subset\_1\ X2\ X0) \wedge (\exists X3.(m1\_subset\_1\ X3\ X0) \wedge (\exists X4.(m1\_subset\_1\ X4\ X0) \wedge (X1 = k11\_finseq\_1\ X2\ X3\ X4))))) \tag{2}$$

Assume the following.

$$((v2\_xxreal\_0\ np\_\_3) \wedge (m2\_subset\_1\ np\_\_3\ k1\_numbers\ k5\_numbers)) \wedge ((m1\_subset\_1\ np\_\_3\ k5\_numbers) \wedge (m1\_subset\_1\ np\_\_3\ k1\_numbers)) \tag{3}$$

Assume the following.

$$\neg v1\_xboole\_0\ np\_\_3 \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_2\ X1\ X0)\Rightarrow(\forall X2.(m2\_finseq\_2\ X2\ X0\ X1)\Leftrightarrow(m1\_subset\_1\ X2\ X1)) \quad (5)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (6)$$

Assume the following.

$$\neg v1\_xboole\_0\ k1\_numbers \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_2\ X1\ X0)\Rightarrow(\forall X2.(m2\_finseq\_2\ X2\ X0\ X1)\Rightarrow(m2\_finseq\_1\ X2\ X0)) \quad (8)$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(m1\_finseq\_2\ (k1\_euclid\ X0)\ k1\_numbers) \quad (9)$$

Assume the following.

$$\forall X0.(m2\_subset\_1\ X0\ k1\_numbers\ k5\_numbers)\Rightarrow(\forall X1.(m2\_subset\_1\ X1\ k1\_numbers\ k5\_numbers)\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k1\_euclid\ X0)\ k1\_numbers))))\Rightarrow(\forall X3.(m2\_finseq\_2\ X3\ k1\_numbers\ (k1\_euclid\ X0))\Rightarrow(k1\_pdiff\_2\ X0\ X1\ X2\ X3 = k1\_partfun1\ k1\_numbers\ (k1\_euclid\ X0)\ (k1\_euclid\ X0)\ k1\_numbers\ (k6\_pdiff\_1\ X0\ X1\ X3)\ X2)))) \quad (10)$$

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0\ X0)\wedge(m2\_subset\_1\ X0\ k1\_numbers\ k5\_numbers))\Rightarrow(\forall X1.(m2\_subset\_1\ X1\ k1\_numbers\ k5\_numbers)\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k1\_euclid\ X0)\ k1\_numbers))))\Rightarrow(\forall X3.(m2\_finseq\_2\ X3\ k1\_numbers\ (k1\_euclid\ X0))\Rightarrow((r3\_pdiff\_1\ X0\ X1\ X2\ X3)\Leftrightarrow(r1\_fdiff\_1\ (k1\_partfun1\ k1\_numbers\ (k1\_euclid\ X0)\ (k1\_euclid\ X0)\ k1\_numbers\ (k6\_pdiff\_1\ X0\ X1\ X3)\ X2)\ (k1\_seq\_1\ (k1\_pdiff\_1\ X1\ X0)\ X3)))))) \quad (11)$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k4\_ordinal1)\Rightarrow(v7\_ordinal1\ X0) \quad (12)$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_euclid\ X0))\Rightarrow(v3\_card\_1\ X1\ X0)) \quad (13)$$

Theorem 1

$$\forall X0.((v1\_funct\_1\ X0) \wedge (m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k1\_euclid\ np\_\_3)\ k1\_numbers)))) \Rightarrow (\forall X1.(m2\_finseq\_2\ X1\ k1\_numbers\ (k1\_euclid\ np\_\_3)) \Rightarrow ((\exists X2.(m1\_subset\_1\ X2\ k1\_numbers) \wedge (\exists X3.(m1\_subset\_1\ X3\ k1\_numbers) \wedge (\exists X4.(m1\_subset\_1\ X4\ k1\_numbers) \wedge ((X1 = k11\_finseq\_1\ X2\ X3\ X4) \wedge (r1\_fdiff\_1\ (k1\_pdiff\_2\ np\_\_3\ np\_\_3\ X0\ X1)\ X4))))) \Leftrightarrow (r3\_pdiff\_1\ np\_\_3\ np\_\_3\ X0\ X1)))$$