t4_pdiff_2 (TMb5tyVpuCYedoFxrbPVZv1fELBVs28wgH5)

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Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_numbers : \iota$ be given. Let $m2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_euclid : \iota \Rightarrow \iota$ be given. Let $np\_\_2 : \iota$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r3\_pdiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_pdiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v1\_xboole\_0 : \iota \Rightarrow o$ 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.

$$(k1\_relset\_1\ (k1\_euclid\ np\_\_2)\ (k1\_pdiff\_1\ np\_\_2\ np\_\_2) = k1\_euclid\ np\_\_2) \wedge ((k2\_relset\_1\ k1\_numbers\ (k1\_pdiff\_1\ np\_\_2\ np\_\_2) = k1\_numbers) \wedge (\forall X0.(m1\_subset\_1\ X0\ k1\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ k1\_numbers) \Rightarrow (k1\_seq\_1\ (k1\_pdiff\_1\ np\_\_2\ np\_\_2)\ (k10\_finseq\_1\ X0\ X1) = X1))))) \tag{1}$$

Assume the following.

$$((v2\_xxreal\_0\ np\_\_2) \wedge (m2\_subset\_1\ np\_\_2\ k1\_numbers\ k5\_numbers)) \wedge ((m1\_subset\_1\ np\_\_2\ k5\_numbers) \wedge (m1\_subset\_1\ np\_\_2\ k1\_numbers)) \tag{2}$$

Assume the following.

$$\neg v1\_xboole\_0\ np\_\_2 \tag{3}$$

Assume the following.

$$\forall X0.(m2\_subset\_1\ X0\ k1\_numbers\ k5\_numbers) \Rightarrow (\forall X1.(m2\_subset\_1\ X1\ k1\_numbers\ k5\_numbers) \Rightarrow (\forall X2.((v1\_funct\_1\ X2) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k1\_euclid\ X0)\ k1\_numbers)))) \Rightarrow (\forall X3.(m2\_finseq\_2\ X3\ k1\_numbers\ (k1\_euclid\ X0)) \Rightarrow (k1\_pdiff\_2\ X0\ X1\ X2\ X3 = k1\_partfun1\ k1\_numbers\ (k1\_euclid\ X0)\ (k1\_euclid\ X0)\ k1\_numbers\ (k6\_pdiff\_1\ X0\ X1\ X3)\ X2)))) \tag{4}$$

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0\ X0)\wedge(m2\_subset\_1\ X0\ k1\_numbers\ k5\_numbers))\Rightarrow (\forall X1.(m2\_subset\_1\ X1\ k1\_numbers\ k5\_numbers)\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k1\_euclid\ X0)\ k1\_numbers))))\Rightarrow(\forall X3.(m2\_finseq\_2\ X3\ k1\_numbers\ (k1\_euclid\ X0))\Rightarrow((r3\_pdiff\_1\ X0\ X1\ X2\ X3)\Leftrightarrow(r1\_fdiff\_1\ (k1\_partfun1\ k1\_numbers\ (k1\_euclid\ X0)\ (k1\_euclid\ X0)\ k1\_numbers\ (k6\_pdiff\_1\ X0\ X1\ X3)\ X2)\ (k1\_seq\_1\ (k1\_pdiff\_1\ X1\ X0)\ X3)))))) \tag{5}$$

Theorem 1

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ k1\_numbers)\Rightarrow(\forall X2.(m2\_finseq\_2\ X2\ k1\_numbers\ (k1\_euclid\ np\_\_2))\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k1\_euclid\ np\_\_2)\ k1\_numbers))))\Rightarrow(((X2 = k10\_finseq\_1\ X0\ X1)\wedge(r3\_pdiff\_1\ np\_\_2\ np\_\_2\ X3\ X2))\Rightarrow(r1\_fdiff\_1\ (k1\_pdiff\_2\ np\_\_2\ np\_\_2\ X3\ X2)\ X1)))))$$