t32_pdiff_4 (TML-DoaTPH2DuhMfzHtCWANZW5M5etqYb2xy)

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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 $r3\_pdiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np\_\_2 : \iota$ be given. Let $r1\_fcont\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_pdiff\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_pdiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_rvsum\_1 : \iota \Rightarrow \iota$ be given. Let $v1\_xreal\_0 : \iota \Rightarrow o$ 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. Assume the following.

$$\forall X0.((v1\_funct\_1\ X0) \wedge (m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k1\_euclid\ np\_\_3)\ k1\_numbers)))) \Rightarrow (\forall X1.(m2\_finseq\_2\ X1\ k1\_numbers\ (k1\_euclid\ np\_\_3)) \Rightarrow ((\exists X2.(m1\_subset\_1\ X2\ k1\_numbers) \wedge (\exists X3.(m1\_subset\_1\ X3\ k1\_numbers) \wedge (\exists X4.(m1\_subset\_1\ X4\ k1\_numbers) \wedge ((X1 = k11\_finseq\_1\ X2\ X3\ X4) \wedge (r1\_fdiff\_1\ (k1\_pdiff\_2\ np\_\_3\ np\_\_2\ X0\ X1)\ X3))))) \Leftrightarrow (r3\_pdiff\_1\ np\_\_3\ np\_\_2\ X0\ X1))) \tag{1}$$

Assume the following.

$$(k1\_relset\_1\ (k1\_euclid\ np\_\_3)\ (k1\_pdiff\_1\ np\_\_2\ np\_\_3) = k1\_euclid\ np\_\_3) \wedge ((k1\_rvsum\_1\ (k1\_pdiff\_1\ np\_\_2\ np\_\_3) = k1\_numbers) \wedge (\forall X0.(m1\_subset\_1\ X0\ k1\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ k1\_numbers) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ k1\_numbers) \Rightarrow (k1\_seq\_1\ (k1\_pdiff\_1\ np\_\_2\ np\_\_3)\ (k11\_finseq\_1\ X0\ X1\ X2) = X1))))) \tag{2}$$

Assume the following.

$$\forall X0.((v1\_funct\_1\ X0) \wedge (m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers)))) \Rightarrow (\forall X1.(v1\_xreal\_0\ X1) \Rightarrow ((r1\_fdiff\_1\ X0\ X1) \Rightarrow (r1\_fcont\_1\ X0\ X1))) \tag{3}$$

Assume the following.

$$((v2\_xxreal\_0\ np\_\_3)\wedge(m2\_subset\_1\ np\_\_3\ k1\_numbers\ k5\_numbers))\wedge ((m1\_subset\_1\ np\_\_3\ k5\_numbers)\wedge(m1\_subset\_1\ np\_\_3\ k1\_numbers)) \tag{4}$$

Assume the following.

$$((v2\_xxreal\_0\ np\_\_2)\wedge(m2\_subset\_1\ np\_\_2\ k1\_numbers\ k5\_numbers))\wedge ((m1\_subset\_1\ np\_\_2\ k5\_numbers)\wedge(m1\_subset\_1\ np\_\_2\ k1\_numbers)) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_2\ X1\ X0)\Rightarrow(\forall X2.(m2\_finseq\_2\ X2\ X0\ X1)\Leftrightarrow(m1\_subset\_1\ X2\ X1)) \tag{6}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((m1\_subset\_1\ X0\ k5\_numbers)\wedge((m1\_subset\_1\ X1\ k5\_numbers)\wedge(((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k1\_euclid\ X0)\ k1\_numbers))))\wedge(m1\_subset\_1\ X3\ (k1\_euclid\ X0)))))\Rightarrow((v1\_funct\_1\ (k1\_pdiff\_2\ X0\ X1\ X2\ X3))\wedge(m1\_subset\_1\ (k1\_pdiff\_2\ X0\ X1\ X2\ X3)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers)))) \tag{8}$$

Assume the following.

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

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k4\_ordinal1)\Rightarrow(v7\_ordinal1\ X0) \tag{10}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow(v1\_xreal\_0\ X0) \tag{11}$$

Theorem 1

$$\forall X0.((v1\_funct\_1\ X0)\wedge(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k1\_euclid\ np\_\_3)\ k1\_numbers))))\Rightarrow(\forall X1.(m2\_finseq\_2\ X1\ k1\_numbers\ (k1\_euclid\ np\_\_3))\Rightarrow((r3\_pdiff\_1\ np\_\_3\ np\_\_2\ X0\ X1)\Rightarrow(r1\_fcont\_1\ (k1\_pdiff\_2\ np\_\_3\ np\_\_2\ X0\ X1)\ (k1\_seq\_1\ (k1\_pdiff\_1\ np\_\_2\ np\_\_3)\ X1))))$$