

# t19\_pdiff\_4 (TMVUbQcpTSuLzULbNUNGvEna- JQWJQc8A6Aj)

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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  $np\_3 : \iota$  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  $k11\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k11\_pdiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k1\_fdiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $k1\_rsum\_1 : \iota \Rightarrow \iota$  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  $m1\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k10\_pdiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k1\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_pdiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
 & (k1\_relset\_1 (k1\_euclid np\_3) (k1\_pdiff\_1 np\_1 np\_3) = k1\_euclid \\
 & \quad np\_3) \wedge ((k1\_rsum\_1 (k1\_pdiff\_1 np\_1 np\_3) = k1\_numbers) \wedge ( \\
 & \quad \forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1 \\
 & \quad X1 k1\_numbers) \Rightarrow (\forall X2.(m1\_subset\_1 X2 k1\_numbers) \Rightarrow (k1\_seq\_1 \\
 & \quad (k1\_pdiff\_1 np\_1 np\_3) (k11\_finseq\_1 X0 X1 X2) = X0)))) \tag{1}
 \end{aligned}$$

Assume the following.

$$\begin{aligned}
 & ((v2\_xxreal\_0 np\_3) \wedge (m2\_subset\_1 np\_3 k1\_numbers k5\_numbers)) \wedge \\
 & ((m1\_subset\_1 np\_3 k5\_numbers) \wedge (m1\_subset\_1 np\_3 k1\_numbers)) \tag{2}
 \end{aligned}$$

Assume the following.

$$\neg v1\_xboole\_0 np\_3 \tag{3}$$

Assume the following.

$$\begin{aligned}
 & ((v2\_xxreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge \\
 & ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers)) \tag{4}
 \end{aligned}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. (m1\_finseq\_2 X1 X0) \Rightarrow (\forall X2. (m2\_finseq\_2 \\
 & \quad X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \tag{5}
 \end{aligned}$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((\neg v1\_xboole\_0 \\ & X0)\wedge(m1\_subset\_1 X0 k5\_numbers))\wedge((m1\_subset\_1 X1 k5\_numbers)\wedge \\ & (((v1\_funct\_1 X2)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & (k1\_euclid X0) k1\_numbers))))\wedge(m1\_subset\_1 X3 (k1\_euclid X0))))))\Rightarrow \\ & (k11\_pdiff\_1 X0 X1 X2 X3 = k10\_pdiff\_1 X0 X1 X2 X3) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0)\Rightarrow(m1\_finseq\_2 (k1\_euclid X0) k1\_numbers) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2\_subset\_1 X0 k1\_numbers k5\_numbers)\Rightarrow(\forall X1. \\ & (m2\_subset\_1 X1 k1\_numbers k5\_numbers)\Rightarrow(\forall X2.((v1\_funct\_1 \\ & X2)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k1\_euclid X0) \\ & k1\_numbers))))\Rightarrow(\forall X3.(m2\_finseq\_2 X3 k1\_numbers (k1\_euclid \\ & X0))\Rightarrow(k1\_pdiff\_2 X0 X1 X2 X3 = k1\_partfun1 k1\_numbers (k1\_euclid \\ & X0) (k1\_euclid X0) k1\_numbers (k6\_pdiff\_1 X0 X1 X3) X2)))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1\_xboole\_0 X0)\wedge(m2\_subset\_1 X0 k1\_numbers k5\_numbers))\Rightarrow \\ & (\forall X1.(m2\_subset\_1 X1 k1\_numbers k5\_numbers)\Rightarrow(\forall X2. \\ & ((v1\_funct\_1 X2)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 ( \\ & k1\_euclid X0) k1\_numbers))))\Rightarrow(\forall X3.(m2\_finseq\_2 X3 k1\_numbers \\ & (k1\_euclid X0))\Rightarrow(k10\_pdiff\_1 X0 X1 X2 X3 = k1\_fdiff\_1 (k1\_partfun1 \\ & k1\_numbers (k1\_euclid X0) (k1\_euclid X0) k1\_numbers (k6\_pdiff\_1 \\ & X0 X1 X3) X2) (k1\_seq\_1 (k1\_pdiff\_1 X1 X0) X3)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1)\Rightarrow(v7\_ordinal1 X0) \quad (11)$$

### Theorem 1

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k1\_numbers)\Rightarrow(\forall X1.(m1\_subset\_1 \\ & X1 k1\_numbers)\Rightarrow(\forall X2.(m1\_subset\_1 X2 k1\_numbers)\Rightarrow(\forall X3. \\ & (m2\_finseq\_2 X3 k1\_numbers (k1\_euclid np\_3))\Rightarrow(\forall X4.(( \\ & v1\_funct\_1 X4)\wedge(m1\_subset\_1 X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k1\_euclid \\ & np\_3) k1\_numbers))))\Rightarrow((X3 = k11\_finseq\_1 X0 X1 X2)\Rightarrow(k11\_pdiff\_1 \\ & np\_3 np\_1 X4 X3 = k1\_fdiff\_1 (k1\_pdiff\_2 np\_3 np\_1 X4 X3) X0)))))) \end{aligned}$$