

# t31\_pdiff\_9 (TMJXBJYxR- Gou95drxj7Jop31yHY7ZVPMgXz)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k5\_numbers : \iota$  be given. 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  $m2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r3\_pdiff\_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_nfcont\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r2\_reset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_integr15 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_binop\_2 : \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(m2\_subset\_1 X0 k1\_numbers k5\_numbers) \Rightarrow (\forall X1. \\ & (\neg v1\_xboole\_0 X1) \Rightarrow (\forall X2. ((v1\_funct\_1 X2) \wedge (m1\_subset\_1 \\ & X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X1 (k1\_euclid X0)))))) \Rightarrow (r2\_reset\_1 \\ & X1 (k1\_euclid X0) (k9\_integr15 X0 (k7\_binop\_2 np\_1) X1 X2) (k2\_nfcont\_4 \\ & X0 X1 X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1\_xboole\_0 X0) \wedge (m2\_subset\_1 X0 k1\_numbers k5\_numbers)) \Rightarrow \\ & (\forall X1. ((\neg v1\_xboole\_0 X1) \wedge (m2\_subset\_1 X1 k1\_numbers k5\_numbers)) \Rightarrow \\ & (\forall X2. ((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & (k1\_euclid X0) (k1\_euclid X1)))))) \Rightarrow (\forall X3. (m2\_finseq\_2 X3 \\ & k1\_numbers (k1\_euclid X0)) \Rightarrow (\forall X4. (m1\_subset\_1 X4 k1\_numbers) \Rightarrow \\ & ((r3\_pdiff\_7 X0 X1 X2 X3) \Rightarrow (r3\_pdiff\_7 X0 X1 (k9\_integr15 X1 X4 (k1\_euclid \\ & X0) X2) X3)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge \\ & ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers)) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\wedge(m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))\Rightarrow((r2\_relset\_1 X0 X1 X2 X3)\Leftrightarrow(X2 = X3)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((\neg v1\_xboole\_0 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))))\Rightarrow(\forall X2.(m2\_subset\_1 X2 X0 X1)\Leftrightarrow(m1\_subset\_1 X2 X1)) \quad (5)$$

Assume the following.

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

Assume the following.

$$(\neg v1\_xboole\_0 k4\_ordinal1)\wedge(v3\_ordinal1 k4\_ordinal1) \quad (7)$$

Assume the following.

$$\neg v1\_xboole\_0 k1\_numbers \quad (8)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0)\Rightarrow(\neg v1\_xboole\_0 (k1\_euclid X0)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v7\_ordinal1 X0)\wedge((v1\_xreal\_0 X1)\wedge((v1\_funct\_1 X3)\wedge(m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X2 (k1\_euclid X0)))))))\Rightarrow((v1\_funct\_1 (k9\_integr15 X0 X1 X2 X3))\wedge(m1\_subset\_1 (k9\_integr15 X0 X1 X2 X3) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X2 (k1\_euclid X0)))))) \quad (10)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(m1\_subset\_1 (k7\_binop\_2 X0) k1\_numbers) \quad (11)$$

Assume the following.

$$m1\_subset\_1 k5\_numbers (k1\_zfmisc\_1 k1\_numbers) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_subset\_1 X0 k5\_numbers)\wedge((\neg v1\_xboole\_0 X1)\wedge((v1\_funct\_1 X2)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X1 (k1\_euclid X0)))))))\Rightarrow((v1\_funct\_1 (k2\_nfcont\_4 X0 X1 X2))\wedge(m1\_subset\_1 (k2\_nfcont\_4 X0 X1 X2) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X1 (k1\_euclid X0)))))) \quad (13)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1) \Rightarrow (v7\_ordinal1 X0) \quad (14)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xreal\_0 X0) \quad (15)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v1\_xboole\_0 X0) \wedge (m2\_subset\_1 X0 k1\_numbers k5\_numbers)) \Rightarrow \\ & (\forall X1.((\neg v1\_xboole\_0 X1) \wedge (m2\_subset\_1 X1 k1\_numbers k5\_numbers)) \Rightarrow \\ & (\forall X2.((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & (k1\_euclid X0) (k1\_euclid X1)))))) \Rightarrow (\forall X3.(m2\_finseq\_2 X3 \\ & k1\_numbers (k1\_euclid X0)) \Rightarrow ((r3\_pdiff\_7 X0 X1 X2 X3) \Rightarrow (r3\_pdiff\_7 \\ & X0 X1 (k2\_nfcont\_4 X1 (k1\_euclid X0) X2) X3)))))) \end{aligned}$$