

## t2\_pdiff\_6

(TMMs9WWAXM5Q8vK4Mn2xq684rh76onh8e8w)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  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  $k1\_euclid : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k4\_real\_ns1 : \iota \Rightarrow \iota$  be given. Let  $m2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $r1\_pdiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_ndiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v1\_xboole\_0 X0) \wedge (m2\_subset\_1 X0 k1\_numbers k5\_numbers)) \Rightarrow \\
 & (\forall X1.((\neg v1\_xboole\_0 X1) \wedge (m2\_subset\_1 X1 k1\_numbers k5\_numbers)) \Rightarrow \\
 & (\forall X2.((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
 & (u1\_struct\_0 (k4\_real\_ns1 X0)) (u1\_struct\_0 (k4\_real\_ns1 X1)))))) \Rightarrow \\
 & (\forall X3.((v1\_funct\_1 X3) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
 & (k1\_euclid X0) (k1\_euclid X1)))))) \Rightarrow (\forall X4.(m1\_subset\_1 X4 \\
 & (u1\_struct\_0 (k4\_real\_ns1 X0))) \Rightarrow (\forall X5.(m2\_finseq\_2 X5 \\
 & k1\_numbers (k1\_euclid X0)) \Rightarrow (((X2 = X3) \wedge (X4 = X5)) \Rightarrow ((r1\_ndiff\_1 \\
 & (k4\_real\_ns1 X0) (k4\_real\_ns1 X1) X2 X4) \Leftrightarrow (r1\_pdiff\_1 X0 X1 X3 X5))))))))) \\
 & \tag{1}
 \end{aligned}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\
 & (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2.(m2\_subset\_1 \\
 & X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \\
 & \tag{2}
 \end{aligned}$$

Assume the following.

$$\neg v1\_xboole\_0 k1\_numbers \tag{3}$$

Assume the following.

$$m1\_subset\_1 k5\_numbers (k1\_zfmisc\_1 k1\_numbers) \tag{4}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \Rightarrow ((m1\_subset\_1 X1 X0) \Leftrightarrow \\
 & (X1 \in X0))) \wedge ((v1\_xboole\_0 X0) \Rightarrow ((m1\_subset\_1 X1 X0) \Leftrightarrow (v1\_xboole\_0 \\
 & X1))) \\
 & \tag{5}
 \end{aligned}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v1\_xboole\_0 X0) \wedge (m1\_subset\_1 X0 k5\_numbers)) \Rightarrow \\ & (\forall X1.((\neg v1\_xboole\_0 X1) \wedge (m1\_subset\_1 X1 k5\_numbers)) \Rightarrow \\ & (\forall X2.((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & (k1\_euclid X1) (k1\_euclid X0)))))) \Rightarrow (\forall X3.((v1\_funct\_1 X3) \wedge \\ & (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 (k4\_real\_ns1 \\ & X1)) (u1\_struct\_0 (k4\_real\_ns1 X0)))))) \Rightarrow (\forall X4.(m2\_finseq\_2 \\ & X4 k1\_numbers (k1\_euclid X1)) \Rightarrow (\forall X5.(m1\_subset\_1 X5 (u1\_struct\_0 \\ & (k4\_real\_ns1 X1))) \Rightarrow (((X2 = X3) \wedge (X4 = X5)) \Rightarrow ((r1\_pdfif\_1 X1 X0 X2 \\ & X4) \Leftrightarrow (r1\_ndifif\_1 (k4\_real\_ns1 X1) (k4\_real\_ns1 X0) X3 X5)))))))) \end{aligned}$$