

## t61\_pdiff\_9

(TMKJDhnyY4g1NDhkNQ87uZPxGmQQGug5M243)

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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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_euclid : \iota \Rightarrow \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $r2\_reset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_pdiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_pdiff\_7 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r3\_pdiff\_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_pdiff\_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_reset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $r4\_pdiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  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. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1\_xboole\_0 X0) \wedge (m2\_subset\_1 X0 k1\_numbers k5\_numbers)) \Rightarrow \\ & \quad (\forall X1. (m2\_subset\_1 X1 k1\_numbers k5\_numbers) \Rightarrow (\forall X2. \\ & \quad (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k1\_euclid X0))) \Rightarrow (\forall X3. (( \\ & \quad v1\_funct\_1 X3) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k1\_euclid \\ & \quad X0) k1\_numbers)))) \Rightarrow (((v1\_pdiff\_7 X2 X0) \wedge ((r1\_xxreal\_0 np\_1 \\ & \quad X1) \wedge (r1\_xxreal\_0 X1 X0))) \Rightarrow ((r3\_pdiff\_9 X0 X2 X1 X3) \Leftrightarrow ((r1\_tarski \\ & \quad X2 (k1\_reset\_1 (k1\_euclid X0) X3)) \wedge (\forall X4. (m2\_finseq\_2 \\ & \quad X4 k1\_numbers (k1\_euclid X0)) \Rightarrow ((X4 \in X2) \Rightarrow (r3\_pdiff\_1 X0 X1 X3 X4)))))))))) \\ & \hspace{15em} (1) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0. (m2\_subset\_1 X0 k1\_numbers k5\_numbers) \Rightarrow (\forall X1. \\ & \quad ((v1\_funct\_1 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 ( \\ & \quad k1\_euclid X0) k1\_numbers)))) \Rightarrow (k1\_reset\_1 (k1\_euclid X0) (k3\_pdiff\_1 \\ & \quad X0 X1) = k1\_reset\_1 (k1\_euclid X0) X1)) \\ & \hspace{15em} (2) \end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1\_xboole\_0 X0) \wedge (m1\_subset\_1 X0 k5\_numbers)) \Rightarrow \\
& (\forall X1.((\neg v1\_xboole\_0 X1) \wedge (m1\_subset\_1 X1 k5\_numbers)) \Rightarrow \\
& (\forall X2.(m1\_subset\_1 X2 k5\_numbers) \Rightarrow (\forall X3.((v1\_funct\_1 \\
& X3) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k1\_euclid X0) \\
& (k1\_euclid X1)))))) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (k1\_zfmisc\_1 \\
& (k1\_euclid X0))) \Rightarrow (((v1\_pdiff\_7 X4 X0) \wedge ((r1\_xreal\_0 np\_1 X2) \wedge \\
& (r1\_xreal\_0 X2 X0))) \Rightarrow ((r2\_pdiff\_7 X0 X1 X2 X3 X4) \Leftrightarrow ((r1\_tarski \\
& X4 (k1\_relset\_1 (k1\_euclid X0) X3)) \wedge (\forall X5.(m2\_finseq\_2 \\
& X5 k1\_numbers (k1\_euclid X0)) \Rightarrow ((X5 \in X4) \Rightarrow (r4\_pdiff\_1 X0 X1 X2 X3 \\
& X5))))))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1\_xboole\_0 X0) \wedge (m2\_subset\_1 X0 k1\_numbers k5\_numbers)) \Rightarrow \\
& (\forall X1.(m2\_subset\_1 X1 k1\_numbers k5\_numbers) \Rightarrow (\forall X2. \\
& ((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 ( \\
& k1\_euclid X0) k1\_numbers)))) \Rightarrow (\forall X3.(m2\_finseq\_2 X3 k1\_numbers \\
& (k1\_euclid X0)) \Rightarrow (\forall X4.((v1\_funct\_1 X4) \wedge (m1\_subset\_1 X4 \\
& (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k1\_euclid X0) (k1\_euclid np\_1)))))) \Rightarrow \\
& ((r2\_relset\_1 (k1\_euclid X0) (k1\_euclid np\_1) X4 (k3\_pdiff\_1 \\
& X0 X2)) \Rightarrow ((r4\_pdiff\_1 X0 np\_1 X1 X4 X3) \Leftrightarrow (r3\_pdiff\_1 X0 X1 X2 X3))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& ((v2\_xreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge \\
& ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers))
\end{aligned} \tag{5}$$

Assume the following.

$$\neg v1\_xboole\_0 np\_1 \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. ((m1\_subset\_1 X2 \\
& (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 X0 X1)))) \Rightarrow ((r2\_relset\_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\
& (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2.(m2\_subset\_1 \\
& X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1))
\end{aligned} \tag{8}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{9}$$

Assume the following.

$$(\neg v1\_xboole\_0 k4\_ordinal1) \wedge (v3\_ordinal1 k4\_ordinal1) \tag{10}$$

Assume the following.

$$\neg v1\_xboole\_0 \ k1\_numbers \quad (11)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v7\_ordinal1 \ X0) \wedge ((v1\_funct\_1 \ X1) \wedge (m1\_subset\_1 \\ & X1 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ (k1\_euclid \ X0) \ k1\_numbers)))))) \Rightarrow \\ & ((v1\_funct\_1 \ (k3\_pdf\_1 \ X0 \ X1)) \wedge (m1\_subset\_1 \ (k3\_pdf\_1 \ X0 \\ & X1) \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ (k1\_euclid \ X0) \ (k1\_euclid \ np\_1)))))) \end{aligned} \quad (13)$$

Assume the following.

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

**Theorem 1**

$$\begin{aligned} & \forall X0. ((\neg v1\_xboole\_0 \ X0) \wedge (m2\_subset\_1 \ X0 \ k1\_numbers \ k5\_numbers)) \Rightarrow \\ & (\forall X1. (m2\_subset\_1 \ X1 \ k1\_numbers \ k5\_numbers) \Rightarrow (\forall X2. \\ & (m1\_subset\_1 \ X2 \ (k1\_zfmisc\_1 \ (k1\_euclid \ X0)))) \Rightarrow (\forall X3. (( \\ & v1\_funct\_1 \ X3) \wedge (m1\_subset\_1 \ X3 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ (k1\_euclid \\ & X0) \ k1\_numbers)))))) \Rightarrow (\forall X4. ((v1\_funct\_1 \ X4) \wedge (m1\_subset\_1 \\ & X4 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ (k1\_euclid \ X0) \ (k1\_euclid \ np\_1)))))) \Rightarrow \\ & (((r2\_relset\_1 \ (k1\_euclid \ X0) \ (k1\_euclid \ np\_1) \ (k3\_pdf\_1 \ X0 \\ & X3) \ X4) \wedge ((v1\_pdf\_7 \ X2 \ X0) \wedge ((r1\_xreal\_0 \ np\_1 \ X1) \wedge (r1\_xreal\_0 \\ & X1 \ X0)))))) \Rightarrow ((r3\_pdf\_9 \ X0 \ X2 \ X1 \ X3) \Leftrightarrow (r2\_pdf\_7 \ X0 \ np\_1 \ X1 \ X4 \ X2)))))) \end{aligned}$$