

## t2\_pdiff\_5

(TMTte2no2YrgbqVREbfwDpAkJDe4dmpdYyW)

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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  $r2\_pdiff\_5 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_fdiff\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_pdiff\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $k1\_pdiff\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $r3\_pdiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_rcomp\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_reset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_fdiff\_1 : \iota \Rightarrow o$  be given. Let  $v2\_fdiff\_1 : \iota \Rightarrow o$  be given. Let  $k9\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $k4\_ordinal1 : \iota$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k7\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_finseq\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

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

Assume the following.

$$\begin{aligned}
& \forall X0.((v1\_funct\_1 X0) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& \quad (k1\_euclid np\_3) k1\_numbers)))) \Rightarrow (\forall X1.(m2\_finseq\_2 X1 \\
& \quad k1\_numbers (k1\_euclid np\_3)) \Rightarrow ((r3\_pdiff\_1 np\_3 np\_2 X0 X1) \Leftrightarrow \\
& \quad (\exists X2.(m1\_subset\_1 X2 k1\_numbers) \wedge (\exists X3.(m1\_subset\_1 \\
& \quad X3 k1\_numbers) \wedge (\exists X4.(m1\_subset\_1 X4 k1\_numbers) \wedge ((X1 = \\
& \quad k11\_finseq\_1 X2 X3 X4) \wedge (\exists X5.(m1\_rcomp\_1 X5 X3) \wedge ((r1\_tarski \\
& \quad X5 (k1\_relset\_1 k1\_numbers (k1\_pdiff\_2 np\_3 np\_2 X0 X1))) \wedge (\exists X6. \\
& \quad ((v1\_funct\_1 X6) \wedge ((v3\_fdiff\_1 X6) \wedge (m1\_subset\_1 X6 (k1\_zfmisc\_1 \\
& \quad (k2\_zfmisc\_1 k1\_numbers k1\_numbers)))))) \wedge (\exists X7.((v1\_funct\_1 \\
& \quad X7) \wedge ((v2\_fdiff\_1 X7) \wedge (m1\_subset\_1 X7 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& \quad k1\_numbers k1\_numbers)))))) \wedge (\forall X8.(m1\_subset\_1 X8 k1\_numbers) \Rightarrow \\
& \quad ((X8 \in X5) \Rightarrow (k9\_real\_1 (k1\_seq\_1 (k1\_pdiff\_2 np\_3 np\_2 X0 X1) X8) \\
& \quad (k1\_seq\_1 (k1\_pdiff\_2 np\_3 np\_2 X0 X1) X3) = k7\_real\_1 (k1\_seq\_1 \\
& \quad X6 (k9\_real\_1 X8 X3)) (k1\_seq\_1 X7 (k9\_real\_1 X8 X3))))))))))))) \Rightarrow
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& ((v2\_xxreal\_0 np\_3) \wedge (m2\_subset\_1 np\_3 k1\_numbers k5\_numbers)) \wedge \\
& ((m1\_subset\_1 np\_3 k5\_numbers) \wedge (m1\_subset\_1 np\_3 k1\_numbers))
\end{aligned} \tag{3}$$

Assume the following.

$$-v1\_xboole\_0 np\_3 \tag{4}$$

Assume the following.

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

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. ((m1\_subset\_1 X0 k5\_numbers) \wedge \\
& (((-v1\_xboole\_0 X1) \wedge (m1\_subset\_1 X1 k5\_numbers)) \wedge ((v1\_funct\_1 \\
& \quad X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k1\_euclid X1) \\
& \quad k1\_numbers)))))) \Rightarrow ((v1\_funct\_1 (k1\_pdiff\_3 X0 X1 X2)) \wedge ((v1\_funct\_2 \\
& \quad (k1\_pdiff\_3 X0 X1 X2) (k1\_euclid X1) k1\_numbers) \wedge (m1\_subset\_1 \\
& \quad (k1\_pdiff\_3 X0 X1 X2) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k1\_euclid X1) \\
& \quad k1\_numbers))))))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1\_funct\_1 X0) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& \quad (k1\_euclid np\_3) k1\_numbers)))) \Rightarrow (\forall X1.(m2\_finseq\_2 X1 \\
& \quad k1\_numbers (k1\_euclid np\_3)) \Rightarrow ((r2\_pdiff\_5 X0 X1) \Leftrightarrow (\exists X2. \\
& (m1\_subset\_1 X2 k1\_numbers) \wedge (\exists X3.(m1\_subset\_1 X3 k1\_numbers) \wedge \\
& \quad (\exists X4.(m1\_subset\_1 X4 k1\_numbers) \wedge ((X1 = k11\_finseq\_1 X2 \\
& \quad X3 X4) \wedge (\exists X5.(m1\_rcomp\_1 X5 X3) \wedge ((r1\_tarski X5 (k1\_relset\_1 \\
& \quad k1\_numbers (k1\_pdiff\_2 np\_3 np\_2 (k1\_pdiff\_3 np\_1 np\_3 X0) \\
& \quad X1))) \wedge (\exists X6.((v1\_funct\_1 X6) \wedge ((v3\_fdiff\_1 X6) \wedge (m1\_subset\_1 \\
& \quad X6 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers k1\_numbers)))))) \wedge (\exists X7. \\
& ((v1\_funct\_1 X7) \wedge ((v2\_fdiff\_1 X7) \wedge (m1\_subset\_1 X7 (k1\_zfmisc\_1 \\
& \quad (k2\_zfmisc\_1 k1\_numbers k1\_numbers)))))) \wedge (\forall X8.(m1\_subset\_1 \\
& \quad X8 k1\_numbers) \Rightarrow ((X8 \in X5) \Rightarrow (k9\_real\_1 (k1\_seq\_1 (k1\_pdiff\_2 np\_3 \\
& \quad np\_2 (k1\_pdiff\_3 np\_1 np\_3 X0) X1) X8) (k1\_seq\_1 (k1\_pdiff\_2 \\
& \quad np\_3 np\_2 (k1\_pdiff\_3 np\_1 np\_3 X0) X1) X3) = k7\_real\_1 (k1\_seq\_1 \\
& \quad X6 (k9\_real\_1 X8 X3)) (k1\_seq\_1 X7 (k9\_real\_1 X8 X3))))))))))))) \quad (8)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. k11\_finseq\_1 X0 X1 X2 = k7\_finseq\_1 \\
& (k7\_finseq\_1 (k9\_finseq\_1 X0) (k9\_finseq\_1 X1)) (k9\_finseq\_1 \\
& \quad X2) \quad (9)
\end{aligned}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1 \\
& \quad X1 k1\_numbers) \Rightarrow (\forall X2.(m1\_subset\_1 X2 k1\_numbers) \Rightarrow (\forall X3. \\
& \quad (m2\_finseq\_2 X3 k1\_numbers (k1\_euclid np\_3)) \Rightarrow (\forall X4.(( \\
& v1\_funct\_1 X4) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k1\_euclid \\
& \quad np\_3) k1\_numbers)))) \Rightarrow (((X3 = k11\_finseq\_1 X0 X1 X2) \wedge (r2\_pdiff\_5 \\
& \quad X4 X3)) \Rightarrow (r1\_fdiff\_1 (k1\_pdiff\_2 np\_3 np\_2 (k1\_pdiff\_3 np\_1 \\
& \quad np\_3 X4) X3) X1))))))
\end{aligned}$$