

## t4\_fdifff\_2

(TMF2QUZ8jHU59EkpHskMkYbAvJtZ5yWY2W1)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $v2\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v1\_fdiff\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $v2\_comseq\_2 : \iota \Rightarrow o$  be given. Let  $k2\_seq\_2 : \iota \Rightarrow \iota$  be given. Let  $k3\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k1\_rvsum\_1 : \iota \Rightarrow \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k8\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_seq\_2 : \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $v3\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((v1\_funct\_1 X0) \wedge ((v1\_funct\_2 X0 k5\_numbers k1\_numbers) \wedge \\
 & (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k1\_numbers)))))) \Rightarrow \\
 & (\forall X1. ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 k5\_numbers k1\_numbers) \wedge \\
 & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k1\_numbers)))))) \Rightarrow \\
 & (((v2\_comseq\_2 X0) \wedge (v2\_comseq\_2 X1)) \Rightarrow (k2\_seq\_2 (k3\_valued\_1 \\
 & k5\_numbers k1\_numbers k1\_numbers X0 X1) = k7\_real\_1 (k2\_seq\_2 X0) \\
 & (k2\_seq\_2 X1))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. (v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1\_funct\_1 X0) \wedge ((v1\_funct\_2 X0 k5\_numbers k1\_numbers) \wedge \\
& (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k1\_numbers)))))) \Rightarrow \\
& (\forall X1.((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 k5\_numbers k1\_numbers) \wedge \\
& (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k1\_numbers)))))) \Rightarrow \\
& (((v2\_comseq\_2 X0) \wedge (v2\_comseq\_2 X1)) \Rightarrow (v2\_comseq\_2 (k3\_valued\_1 \\
& k5\_numbers k1\_numbers k1\_numbers X0 X1)))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 \\
& X1 k5\_numbers k1\_numbers) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& k5\_numbers k1\_numbers)))))) \Rightarrow ((v3\_funct\_1 X1) \Rightarrow (((\neg X0 \in k1\_rvsum\_1 \\
& X1) \wedge (\forall X2.(m2\_subset\_1 X2 k1\_numbers k5\_numbers) \Rightarrow (k8\_nat\_1 \\
& k1\_numbers X1 X2 \neq X0))) \vee (k2\_seq\_2 X1 = X0))))
\end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (k2\_xcmplx\_0 X0 k6\_numbers = X0) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k1\_numbers) \wedge (v1\_xreal\_0 X1)) \Rightarrow (k7\_real\_1 X0 X1 = k2\_xcmplx\_0 X0 X1) \tag{6}$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1\_funct\_1 X0) \wedge ((v1\_funct\_2 X0 k5\_numbers k1\_numbers) \wedge \\
& (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k1\_numbers)))))) \Rightarrow \\
& (k2\_seq\_2 X0 = k1\_seq\_2 X0)
\end{aligned} \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1) \wedge (v5\_relat\_1 X1 X0)) \Rightarrow (k2\_relset\_1 X0 X1 = k10\_xtuple\_0 X1) \tag{9}$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge (v3\_valued\_0 X0)) \Rightarrow (k1\_rvsum\_1 X0 = k10\_xtuple\_0 X0) \tag{10}$$

Assume the following.

$$v3\_membered k1\_numbers \tag{11}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_funct\_1 X0) \wedge ((v1\_funct\_2 X0 \ k5\_numbers \ k1\_numbers) \wedge \\ & ((v1\_diff\_1 X0 \ k6\_numbers) \wedge (m1\_subset\_1 X0 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \\ & \quad k5\_numbers \ k1\_numbers)))))) \Rightarrow ((v1\_xboole\_0 (k1\_seq\_2 X0)) \wedge ( \\ & \quad v1\_xreal\_0 (k1\_seq\_2 X0))) \end{aligned} \tag{12}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_funct\_1 X0) \wedge ((v1\_funct\_2 X0 \ k5\_numbers \ k1\_numbers) \wedge \\ & (m1\_subset\_1 X0 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ k5\_numbers \ k1\_numbers)))))) \Rightarrow \\ & \quad (m1\_subset\_1 (k2\_seq\_2 X0) \ k1\_numbers) \end{aligned} \tag{13}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_funct\_1 X0) \wedge ((v1\_funct\_2 X0 \ k5\_numbers \ k1\_numbers) \wedge \\ & (m1\_subset\_1 X0 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ k5\_numbers \ k1\_numbers)))))) \Rightarrow \\ & \quad (v1\_xreal\_0 (k1\_seq\_2 X0)) \end{aligned} \tag{14}$$

Assume the following.

$$\forall X0. \forall X1. (X1 = k1\_tarski \ X0) \Leftrightarrow (\forall X2. (X2 \in X1) \Leftrightarrow (X2 = X0)) \tag{15}$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_xcmplx\_0 X0) \wedge (v1\_xcmplx\_0 X1)) \Rightarrow (k2\_xcmplx\_0 X0 \ X1 = k2\_xcmplx\_0 X1 \ X0) \tag{16}$$

Assume the following.

$$\forall X0. (v1\_xreal\_0 X0) \Rightarrow (v1\_xcmplx\_0 X0) \tag{17}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1\_subset\_1 X2 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 X0 \ X1))) \Rightarrow ((v4\_relat\_1 X2 \ X0) \wedge (v5\_relat\_1 X2 \ X1)) \tag{18}$$

Assume the following.

$$\forall X0. (m1\_subset\_1 X0 \ k1\_numbers) \Rightarrow (v1\_xreal\_0 X0) \tag{19}$$

Assume the following.

$$\begin{aligned} & \forall X0. (m1\_subset\_1 X0 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ k5\_numbers \\ & \quad k1\_numbers))) \Rightarrow (((v1\_funct\_1 X0) \wedge ((v3\_funct\_1 X0) \wedge (v1\_funct\_2 \\ & \quad X0 \ k5\_numbers \ k1\_numbers))) \Rightarrow ((v1\_funct\_1 X0) \wedge ((v1\_funct\_2 X0 \\ & \quad k5\_numbers \ k1\_numbers) \wedge (v2\_comseq\_2 X0)))) \end{aligned} \tag{20}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(v1\_relat\_1 X2) \quad (21)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k1\_numbers)))\Rightarrow(((v1\_funct\_1 X0)\wedge((v1\_funct\_2 X0 k5\_numbers k1\_numbers)\wedge(v1\_fdiff\_1 X0 k6\_numbers)))\Rightarrow((v1\_funct\_1 X0)\wedge((v1\_funct\_2 X0 k5\_numbers k1\_numbers)\wedge(v2\_comseq\_2 X0)))) \quad (22)$$

Assume the following.

$$\forall X0.\forall X1.(v3\_membered X1)\Rightarrow(\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(v3\_valued\_0 X2)) \quad (23)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k1\_numbers)\Rightarrow(\forall X1.((v2\_relat\_1 X1)\wedge((v1\_funct\_1 X1)\wedge((v1\_funct\_2 X1 k5\_numbers k1\_numbers)\wedge((v1\_fdiff\_1 X1 k6\_numbers)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k1\_numbers))))))))\Rightarrow(\forall X2.((v1\_funct\_1 X2)\wedge((v3\_funct\_1 X2)\wedge((v1\_funct\_2 X2 k5\_numbers k1\_numbers)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k1\_numbers))))))))\Rightarrow(((k2\_relset\_1 k1\_numbers X2 = k1\_tarski X0)\Rightarrow((v2\_comseq\_2 X2)\wedge((k2\_seq\_2 X2 = X0)\wedge((v2\_comseq\_2 (k3\_valued\_1 k5\_numbers k1\_numbers k1\_numbers X1 X2))\wedge(k2\_seq\_2 (k3\_valued\_1 k5\_numbers k1\_numbers k1\_numbers X1 X2) = X0)))))) \end{aligned}$$