

## t4\_diff.3

(TMZP3tF9XtKnN1KQ1y5G24XpNNTt1GGe1QE)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_seqfunc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_diff\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k26\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k7\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k24\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $v3\_valued\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0.(m2\_subset\_1 X0 k1\_numbers k5\_numbers) \Rightarrow (\forall X1. \\
 & (m1\_subset\_1 X1 k1\_numbers) \Rightarrow (\forall X2.(m1\_subset\_1 X2 k1\_numbers) \Rightarrow \\
 & (\forall X3.((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 X3 k1\_numbers k1\_numbers) \wedge \\
 & (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers k1\_numbers)))))) \Rightarrow \\
 & (\forall X4.((v1\_funct\_1 X4) \wedge ((v1\_funct\_2 X4 k1\_numbers k1\_numbers) \wedge \\
 & (m1\_subset\_1 X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers k1\_numbers)))))) \Rightarrow \\
 & (k1\_seq\_1 (k1\_seqfunc k1\_numbers k1\_numbers (k6\_diff\_1 (k3\_valued\_1 \\
 & k1\_numbers k1\_numbers k1\_numbers X3 X4) X1) (k2\_nat\_1 X0 np\_1)) \\
 & X2 = k7\_real\_1 (k1\_seq\_1 (k1\_seqfunc k1\_numbers k1\_numbers (k6\_diff\_1 \\
 & X3 X1) (k2\_nat\_1 X0 np\_1)) X2) (k1\_seq\_1 (k1\_seqfunc k1\_numbers \\
 & k1\_numbers (k6\_diff\_1 X4 X1) (k2\_nat\_1 X0 np\_1)) X2))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m2\_subset\_1 X0 k1\_numbers k5\_numbers) \Rightarrow (\forall X1. \\
& (m1\_subset\_1 X1 k1\_numbers) \Rightarrow (\forall X2.(m1\_subset\_1 X2 k1\_numbers) \Rightarrow \\
& (\forall X3.(m1\_subset\_1 X3 k1\_numbers) \Rightarrow (\forall X4.((v1\_funct\_1 \\
& X4) \wedge ((v1\_funct\_2 X4 k1\_numbers k1\_numbers) \wedge (m1\_subset\_1 X4 ( \\
& k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers k1\_numbers)))))) \Rightarrow (k1\_seq\_1 \\
& (k1\_seqfunc k1\_numbers k1\_numbers (k6\_diff\_1 (k26\_valued\_1 k1\_numbers \\
& k1\_numbers X4 X1) X2) (k2\_nat\_1 X0 np\_1)) X3 = k8\_real\_1 X1 (k1\_seq\_1 \\
& (k1\_seqfunc k1\_numbers k1\_numbers (k6\_diff\_1 X4 X2) (k2\_nat\_1 \\
& X0 np\_1)) X3))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\
& (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2.(m2\_subset\_1 \\
& X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1))
\end{aligned} \tag{3}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((v3\_membered X1) \wedge \\
& (((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& X0 X1)))) \wedge (v1\_xreal\_0 X3))) \Rightarrow (k26\_valued\_1 X0 X1 X2 X3 = k24\_valued\_1 \\
& X2 X3)
\end{aligned} \tag{5}$$

Assume the following.

$$(\neg v1\_xboole\_0 k4\_ordinal1) \wedge (v3\_ordinal1 k4\_ordinal1) \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.(((\neg v1\_xboole\_0 \\
& X1) \wedge (v3\_membered X1)) \wedge (((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 X0 X1) \wedge \\
& (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))))) \wedge (v1\_xreal\_0 \\
& X3))) \Rightarrow ((v1\_funct\_1 (k24\_valued\_1 X2 X3)) \wedge (v1\_partfun1 (k24\_valued\_1 \\
& X2 X3) X0))
\end{aligned} \tag{7}$$

Assume the following.

$$v3\_membered k1\_numbers \tag{8}$$

Assume the following.

$$\neg v1\_xboole\_0 k1\_numbers \tag{9}$$

Assume the following.

$$m1\_subset\_1 k5\_numbers (k1\_zfmisc\_1 k1\_numbers) \tag{10}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v3\_membered\ X1)\wedge \\ & (((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1 \\ & X0\ X1))))\wedge(v1\_xreal\_0\ X3)))\Rightarrow((v1\_funct\_1\ (k26\_valued\_1\ X0\ X1 \\ & X2\ X3))\wedge(m1\_subset\_1\ (k26\_valued\_1\ X0\ X1\ X2\ X3)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1 \\ & X0\ k1\_numbers)))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_valued\_0 \\ & X0)))\wedge(v1\_xcmplx\_0\ X1))\Rightarrow((v1\_relat\_1\ (k24\_valued\_1\ X0\ X1))\wedge \\ & (v1\_funct\_1\ (k24\_valued\_1\ X0\ X1))) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v3\_valued\_0\ X0))\Rightarrow((v1\_relat\_1\ X0)\wedge(v1\_valued\_0\ X0)) \quad (13)$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow(v1\_xreal\_0\ X0) \quad (14)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v1\_relat\_1\ X2) \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow((v1\_partfun1\ X2\ X0)\Rightarrow(v1\_funct\_2\ X2\ X0\ X1)) \end{aligned} \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.(v3\_membered\ X1)\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v3\_valued\_0\ X2)) \quad (18)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1 \\ & X1 k1\_numbers) \Rightarrow (\forall X2.(m1\_subset\_1 X2 k1\_numbers) \Rightarrow (\forall X3. \\ & (m1\_subset\_1 X3 k1\_numbers) \Rightarrow (\forall X4.((v1\_funct\_1 X4) \wedge (( \\ & v1\_funct\_2 X4 k1\_numbers k1\_numbers) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 k1\_numbers k1\_numbers)))))) \Rightarrow (\forall X5.((v1\_funct\_1 \\ & X5) \wedge ((v1\_funct\_2 X5 k1\_numbers k1\_numbers) \wedge (m1\_subset\_1 X5 ( \\ & k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers k1\_numbers)))))) \Rightarrow (k1\_seq\_1 \\ & (k1\_seqfunc k1\_numbers k1\_numbers (k6\_diff\_1 (k3\_valued\_1 k1\_numbers \\ & k1\_numbers k1\_numbers (k26\_valued\_1 k1\_numbers k1\_numbers X4 \\ & X1) X5) X2) (k2\_nat\_1 X0 np\_1)) X3 = k7\_real\_1 (k8\_real\_1 X1 (k1\_seq\_1 \\ & (k1\_seqfunc k1\_numbers k1\_numbers (k6\_diff\_1 X4 X2) (k2\_nat\_1 \\ & X0 np\_1)) X3)) (k1\_seq\_1 (k1\_seqfunc k1\_numbers k1\_numbers (k6\_diff\_1 \\ & X5 X2) (k2\_nat\_1 X0 np\_1)) X3)))))) \end{aligned}$$