

t16\_diff\_2 (TM-  
RUTdK6iv4t42XB8fkRPUvbwJkiUnW8Wpq)

October 27, 2020

Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_diff\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k26\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1 \\
& X1 k1\_numbers) \Rightarrow (\forall X2.(m1\_subset\_1 X2 k1\_numbers) \Rightarrow (\forall X3. \\
& (m1\_subset\_1 X3 k1\_numbers) \Rightarrow (\forall X4.(m1\_subset\_1 X4 k1\_numbers) \Rightarrow \\
& (\forall X5.(m1\_subset\_1 X5 k1\_numbers) \Rightarrow (\forall X6.((v1\_funct\_1 \\
& X6) \wedge ((v1\_funct\_2 X6 k1\_numbers k1\_numbers) \wedge (m1\_subset\_1 X6 ( \\
& k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers k1\_numbers)))))) \Rightarrow (\forall X7. \\
& ((v1\_funct\_1 X7) \wedge ((v1\_funct\_2 X7 k1\_numbers k1\_numbers) \wedge (m1\_subset\_1 \\
& X7 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers k1\_numbers)))))) \Rightarrow (k2\_diff\_2 \\
& (k3\_valued\_1 k1\_numbers k1\_numbers k1\_numbers X6 X7) X0 X1 X2 X3 \\
& X4 X5 = k7\_real\_1 (k2\_diff\_2 X6 X0 X1 X2 X3 X4 X5) (k2\_diff\_2 X7 X0 X1 \\
& X2 X3 X4 X5)))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1 \\
& X1 k1\_numbers) \Rightarrow (\forall X2.(m1\_subset\_1 X2 k1\_numbers) \Rightarrow (\forall X3. \\
& (m1\_subset\_1 X3 k1\_numbers) \Rightarrow (\forall X4.(m1\_subset\_1 X4 k1\_numbers) \Rightarrow \\
& (\forall X5.(m1\_subset\_1 X5 k1\_numbers) \Rightarrow (\forall X6.(m1\_subset\_1 \\
& X6 k1\_numbers) \Rightarrow (\forall X7.((v1\_funct\_1 X7) \wedge ((v1\_funct\_2 X7 \\
& k1\_numbers k1\_numbers) \wedge (m1\_subset\_1 X7 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& k1\_numbers k1\_numbers)))))) \Rightarrow (k2\_diff\_2 (k26\_valued\_1 k1\_numbers \\
& k1\_numbers X7 X0) X1 X2 X3 X4 X5 X6 = k8\_real\_1 X0 (k2\_diff\_2 X7 X1 X2 \\
& X3 X4 X5 X6)))))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v3\_membered\ X1)\wedge \\ & (((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1 \\ & X0\ X1))))\wedge(v1\_xreal\_0\ X3)))\Rightarrow(k26\_valued\_1\ X0\ X1\ X2\ X3 = k24\_valued\_1 \\ & X2\ X3) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((\neg v1\_xboole\_0 \\ & X1)\wedge(v3\_membered\ X1))\wedge(((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ X0\ X1)\wedge \\ & (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))))\wedge(v1\_xreal\_0 \\ & X3)))\Rightarrow((v1\_funct\_1\ (k24\_valued\_1\ X2\ X3))\wedge(v1\_partfun1\ (k24\_valued\_1 \\ & X2\ X3)\ X0)) \end{aligned} \tag{4}$$

Assume the following.

$$v3\_membered\ k1\_numbers \tag{5}$$

Assume the following.

$$\neg v1\_xboole\_0\ k1\_numbers \tag{6}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v3\_membered\ X1)\wedge \\ & (((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1 \\ & X0\ X1))))\wedge(v1\_xreal\_0\ X3)))\Rightarrow((v1\_funct\_1\ (k26\_valued\_1\ X0\ X1 \\ & X2\ X3))\wedge(m1\_subset\_1\ (k26\_valued\_1\ X0\ X1\ X2\ X3)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1 \\ & X0\ k1\_numbers)))) \end{aligned} \tag{7}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow(v1\_xreal\_0\ X0) \tag{8}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow((v1\_partfun1\ X2\ X0)\Rightarrow(v1\_funct\_2\ X2\ X0\ X1)) \end{aligned} \tag{9}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1 \\ & X1 k1\_numbers) \Rightarrow (\forall X2.(m1\_subset\_1 X2 k1\_numbers) \Rightarrow (\forall X3. \\ & (m1\_subset\_1 X3 k1\_numbers) \Rightarrow (\forall X4.(m1\_subset\_1 X4 k1\_numbers) \Rightarrow \\ & (\forall X5.(m1\_subset\_1 X5 k1\_numbers) \Rightarrow (\forall X6.(m1\_subset\_1 \\ & X6 k1\_numbers) \Rightarrow (\forall X7.(m1\_subset\_1 X7 k1\_numbers) \Rightarrow (\forall X8. \\ & ((v1\_funct\_1 X8) \wedge ((v1\_funct\_2 X8 k1\_numbers k1\_numbers) \wedge (m1\_subset\_1 \\ & X8 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers k1\_numbers)))))) \Rightarrow (\forall X9. \\ & ((v1\_funct\_1 X9) \wedge ((v1\_funct\_2 X9 k1\_numbers k1\_numbers) \wedge (m1\_subset\_1 \\ & X9 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers k1\_numbers)))))) \Rightarrow (k2\_diff\_2 \\ & (k3\_valued\_1 k1\_numbers k1\_numbers k1\_numbers (k26\_valued\_1 \\ & k1\_numbers k1\_numbers X8 X0) (k26\_valued\_1 k1\_numbers k1\_numbers \\ & X9 X1)) X2 X3 X4 X5 X6 X7 = k7\_real\_1 (k8\_real\_1 X0 (k2\_diff\_2 X8 X2 X3 \\ & X4 X5 X6 X7) (k8\_real\_1 X1 (k2\_diff\_2 X9 X2 X3 X4 X5 X6 X7))))))))) \end{aligned}$$