

## t12\_mesfunc3

(TMNjCEt5SySTbJuakZB4gR5EWs7hJiGw9ev)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_prob\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_prob\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_numbers : \iota$  be given. Let  $r1\_mesfunc2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_prob\_2 : \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_mesfunc3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_tarski : \iota \Rightarrow \iota$  be given. Let  $k2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k12\_supinf\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_extreal1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_mesfunc2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((\neg v1\_xboole\_0 X1) \wedge \\
 & ((v1\_prob\_1 X1 X0) \wedge ((v4\_prob\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\
 & (k1\_zfmisc\_1 X0)))))) \Rightarrow (\forall X2. ((v1\_funct\_1 X2) \wedge (m1\_subset\_1 \\
 & X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k7\_numbers)))) \Rightarrow (\neg (r1\_mesfunc2 \\
 & X0 X1 X2) \wedge (\forall X3. ((v1\_prob\_2 X3) \wedge (m2\_finseq\_1 X3 X1)) \Rightarrow (\forall X4. \\
 & (m2\_finseq\_1 X4 k7\_numbers) \Rightarrow (\neg (k1\_relset\_1 X0 X2 = k3\_tarski ( \\
 & k2\_relset\_1 X1 X3))) \wedge ((k4\_finseq\_1 X3 = k4\_finseq\_1 X4) \wedge (\forall X5. \\
 & (v7\_ordinal1 X5) \Rightarrow ((X5 \in k4\_finseq\_1 X3) \Rightarrow (\forall X6. (X6 \in k1\_funct\_1 \\
 & X3 X5) \Rightarrow (k12\_supinf\_2 X2 X6 = k12\_supinf\_2 X4 X5)))))) \wedge (\forall X5. \\
 & \neg (X5 \in k1\_relset\_1 X0 X2) \wedge (\forall X6. (m2\_finseq\_1 X6 k7\_numbers) \Rightarrow \\
 & (\neg (k4\_finseq\_1 X6 = k4\_finseq\_1 X4) \wedge (\forall X7. (v7\_ordinal1 \\
 & X7) \Rightarrow ((X7 \in k4\_finseq\_1 X6) \Rightarrow (k12\_supinf\_2 X6 X7 = k1\_extreal1 (k12\_supinf\_2 \\
 & X4 X7) (k12\_supinf\_2 (k3\_mesfunc2 (k1\_funct\_1 X3 X7) X0) X5)))))))))) \\
 & \hspace{15em} (1)
 \end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge \\
& ((v1\_prob\_1 X1 X0) \wedge ((v4\_prob\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\
& (k1\_zfmisc\_1 X0)))))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge (m1\_subset\_1 \\
& X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k7\_numbers)))) \Rightarrow (\forall X3.( \\
& (v1\_prob\_2 X3) \wedge (m2\_finseq\_1 X3 X1)) \Rightarrow (\forall X4.(m2\_finseq\_1 \\
& X4 k7\_numbers) \Rightarrow ((r1\_mesfunc3 X0 X1 X2 X3 X4) \Leftrightarrow ((k1\_relset\_1 X0 X2 = \\
& k3\_tarski (k2\_relset\_1 X1 X3)) \wedge ((k4\_finseq\_1 X3 = k4\_finseq\_1 \\
& X4) \wedge (\forall X5.(v7\_ordinal1 X5) \Rightarrow ((X5 \in k4\_finseq\_1 X3) \Rightarrow (\forall X6. \\
& (X6 \in k1\_funct\_1 X3 X5) \Rightarrow (k12\_supinf\_2 X2 X6 = k12\_supinf\_2 X4 X5)))))))))) \\
& \hspace{15em} (2)
\end{aligned}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge \\
& ((v1\_prob\_1 X1 X0) \wedge ((v4\_prob\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\
& (k1\_zfmisc\_1 X0)))))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge (m1\_subset\_1 \\
& X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k7\_numbers)))) \Rightarrow (\neg(r1\_mesfunc2 \\
& X0 X1 X2) \wedge (\forall X3.((v1\_prob\_2 X3) \wedge (m2\_finseq\_1 X3 X1)) \Rightarrow (\forall X4. \\
& (m2\_finseq\_1 X4 k7\_numbers) \Rightarrow (\neg(r1\_mesfunc3 X0 X1 X2 X3 X4))))))
\end{aligned}$$