

## t45\_mesfun7c

(TMQexafqH1U5m8FAp763M5QVKhcBcrKs5p3)

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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  $k2\_numbers : \iota$  be given. Let  $r1\_mesfun7c : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_prob\_2 : \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r3\_mesfun7c : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  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. Assume the following.

$$\begin{aligned}
 & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge \\
 & ((v1\_prob\_1 X1 X0) \wedge ((v4\_prob\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\
 & (k1\_zfmisc\_1 X0)))))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge (m1\_subset\_1 \\
 & X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k2\_numbers)))) \Rightarrow (\neg (r1\_mesfun7c \\
 & X0 X1 X2) \wedge (\forall X3.((v1\_prob\_2 X3) \wedge (m2\_finseq\_1 X3 X1)) \Rightarrow (\forall X4. \\
 & (m2\_finseq\_1 X4 k2\_numbers) \Rightarrow (\neg (k1\_relset\_1 X0 X2 = k3\_tarski ( \\
 & k2\_relset\_1 X1 X3)) \wedge ((k4\_finseq\_1 X3 = k4\_finseq\_1 X4) \wedge (\forall X5. \\
 & (v7\_ordinal1 X5) \Rightarrow ((X5 \in k4\_finseq\_1 X3) \Rightarrow (\forall X6.(X6 \in k1\_funct\_1 \\
 & X3 X5) \Rightarrow (k1\_funct\_1 X2 X6 = k1\_funct\_1 X4 X5))))))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge \\
 & ((v1\_prob\_1 X1 X0) \wedge ((v4\_prob\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\
 & (k1\_zfmisc\_1 X0)))))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge (m1\_subset\_1 \\
 & X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k2\_numbers)))) \Rightarrow (\forall X3.( \\
 & (v1\_prob\_2 X3) \wedge (m2\_finseq\_1 X3 X1)) \Rightarrow (\forall X4.(m2\_finseq\_1 \\
 & X4 k2\_numbers) \Rightarrow ((r3\_mesfun7c X0 X1 X2 X3 X4) \Leftrightarrow ((k1\_relset\_1 X0 X2 = \\
 & k3\_tarski (k2\_relset\_1 X1 X3)) \wedge ((k4\_finseq\_1 X3 = k4\_finseq\_1 \\
 & X4) \wedge (\forall X5.(v7\_ordinal1 X5) \Rightarrow ((X5 \in k4\_finseq\_1 X3) \Rightarrow (\forall X6. \\
 & (X6 \in k1\_funct\_1 X3 X5) \Rightarrow (k1\_funct\_1 X2 X6 = k1\_funct\_1 X4 X5))))))))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge \\
& ((v1\_prob\_1 X1 X0) \wedge ((v4\_prob\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\
& (k1\_zfmisc\_1 X0)))))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge (m1\_subset\_1 \\
& X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k2\_numbers)))) \Rightarrow ((r1\_mesfun7c \\
& X0 X1 X2) \Leftrightarrow (\exists X3.((v1\_prob\_2 X3) \wedge (m2\_finseq\_1 X3 X1)) \wedge (( \\
& k1\_relset\_1 X0 X2 = k3\_tarski (k2\_relset\_1 X1 X3)) \wedge (\forall X4. \\
& (v7\_ordinal1 X4) \Rightarrow (\forall X5.(m1\_subset\_1 X5 X0) \Rightarrow (\forall X6. \\
& (m1\_subset\_1 X6 X0) \Rightarrow (((X4 \in k4\_finseq\_1 X3) \wedge ((X5 \in k1\_funct\_1 X3 \\
& X4) \wedge (X6 \in k1\_funct\_1 X3 X4)) \Rightarrow (k1\_funct\_1 X2 X5 = k1\_funct\_1 X2 X6))))))))))
\end{aligned}
\tag{3}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge \\
& ((v1\_prob\_1 X1 X0) \wedge ((v4\_prob\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\
& (k1\_zfmisc\_1 X0)))))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge (m1\_subset\_1 \\
& X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k2\_numbers)))) \Rightarrow ((r1\_mesfun7c \\
& X0 X1 X2) \Leftrightarrow (\exists X3.((v1\_prob\_2 X3) \wedge (m2\_finseq\_1 X3 X1)) \wedge (\exists X4. \\
& (m2\_finseq\_1 X4 k2\_numbers) \wedge (r3\_mesfun7c X0 X1 X2 X3 X4))))))
\end{aligned}$$