

1143\_modelc\_2 (TMcc-  
QuQ7LzoZKxiDZAfZerAWt3gGYMpDsiA)

October 27, 2020

Let  $v1\_xboole\_0 : \iota \Rightarrow o$  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  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k30\_modelc\_1 : \iota \Rightarrow \iota$  be given. Let  $k25\_modelc\_2 : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k31\_modelc\_2 : \iota \Rightarrow \iota$  be given. Let  $k36\_modelc\_2 : \iota \Rightarrow \iota$  be given. Let  $r2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. \forall X2. \forall X3. ((v1\_funct\_1 X3) \wedge \\
 & ((v1\_funct\_2 X3 (k2\_zfmisc\_1 X0 X1) X2) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 \\
 & (k2\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1) X2)))) \Rightarrow (\forall X4. ((v1\_funct\_1 \\
 & X4) \wedge ((v1\_funct\_2 X4 (k2\_zfmisc\_1 X0 X1) X2) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 \\
 & (k2\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1) X2)))) \Rightarrow ((\forall X5. \forall X6. \\
 & ((X5 \in X0) \wedge (X6 \in X1)) \Rightarrow (k1\_binop\_1 X3 X5 X6 = k1\_binop\_1 X4 X5 X6)) \Rightarrow \\
 & (r2\_funct\_2 (k2\_zfmisc\_1 X0 X1) X2 X3 X4)))
 \end{aligned} \tag{1}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((v1\_funct\_1 X1) \wedge \\
& (v1\_funct\_2 X1 (k2\_zfmisc\_1 (k30\_modelc\_1 (k25\_modelc\_2 X0)) \\
& (k30\_modelc\_1 (k25\_modelc\_2 X0))) (k30\_modelc\_1 (k25\_modelc\_2 \\
& X0))) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 \\
& (k30\_modelc\_1 (k25\_modelc\_2 X0)) (k30\_modelc\_1 (k25\_modelc\_2 \\
& X0))) (k30\_modelc\_1 (k25\_modelc\_2 X0)))))) \Rightarrow (\forall X2. ((v1\_funct\_1 \\
& X2) \wedge ((v1\_funct\_2 X2 (k2\_zfmisc\_1 (k30\_modelc\_1 (k25\_modelc\_2 \\
& X0)) (k30\_modelc\_1 (k25\_modelc\_2 X0))) (k30\_modelc\_1 (k25\_modelc\_2 \\
& X0))) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 \\
& (k30\_modelc\_1 (k25\_modelc\_2 X0)) (k30\_modelc\_1 (k25\_modelc\_2 \\
& X0))) (k30\_modelc\_1 (k25\_modelc\_2 X0)))))) \Rightarrow ((\forall X3. \forall X4. \\
& ((X3 \in k30\_modelc\_1 (k25\_modelc\_2 X0)) \wedge (X4 \in k30\_modelc\_1 (k25\_modelc\_2 \\
& X0))) \Rightarrow (k1\_binop\_1 X1 X3 X4 = k1\_funct\_1 (k31\_modelc\_2 X0) (k1\_binop\_1 \\
& (k36\_modelc\_2 X0) (k1\_funct\_1 (k31\_modelc\_2 X0) X3) (k1\_funct\_1 \\
& (k31\_modelc\_2 X0) X4)))) \wedge (\forall X3. \forall X4. ((X3 \in k30\_modelc\_1 \\
& (k25\_modelc\_2 X0)) \wedge (X4 \in k30\_modelc\_1 (k25\_modelc\_2 X0))) \Rightarrow (k1\_binop\_1 \\
& X2 X3 X4 = k1\_funct\_1 (k31\_modelc\_2 X0) (k1\_binop\_1 (k36\_modelc\_2 \\
& X0) (k1\_funct\_1 (k31\_modelc\_2 X0) X3) (k1\_funct\_1 (k31\_modelc\_2 \\
& X0) X4)))))) \Rightarrow (r2\_funct\_2 (k2\_zfmisc\_1 (k30\_modelc\_1 (k25\_modelc\_2 \\
& X0)) (k30\_modelc\_1 (k25\_modelc\_2 X0))) (k30\_modelc\_1 (k25\_modelc\_2 \\
& X0)) X1 X2)))
\end{aligned}$$