

## t44\_modelc\_1

(TMPbFXKMt7aQbcxpowPtMyqY9aWNFDpG2VT)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k30\_modelc\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k48\_modelc\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r3\_modelc\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k59\_modelc\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k53\_modelc\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k28\_modelc\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((v1\_partfun1 X1 X0) \wedge \\
 & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0)))) \Rightarrow (\forall X2. \\
 & ((\neg v1\_xboole\_0 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k30\_modelc\_1 \\
 & X0)))) \Rightarrow (\forall X3. (m1\_subset\_1 X3 (u1\_struct\_0 (k48\_modelc\_1 \\
 & X0 X1 X2))) \Rightarrow (\forall X4. (m1\_subset\_1 X4 (u1\_struct\_0 (k48\_modelc\_1 \\
 & X0 X1 X2))) \Rightarrow (\forall X5. (m1\_subset\_1 X5 (u1\_struct\_0 (k48\_modelc\_1 \\
 & X0 X1 X2))) \Rightarrow ((\forall X6. (m1\_subset\_1 X6 X0) \Rightarrow ((r3\_modelc\_1 X0 \\
 & X1 X2 X6 X4) \Rightarrow (r3\_modelc\_1 X0 X1 X2 X6 X5)))) \Rightarrow (\forall X6. (m1\_subset\_1 \\
 & X6 X0) \Rightarrow ((r3\_modelc\_1 X0 X1 X2 X6 (k53\_modelc\_1 X0 X1 X2 X3 X4) \Rightarrow (r3\_modelc\_1 \\
 & X0 X1 X2 X6 (k53\_modelc\_1 X0 X1 X2 X3 X5)))))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((v1\_partfun1 X1 X0) \wedge \\
 & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0)))) \Rightarrow (\forall X2. \\
 & (m1\_subset\_1 X2 X0) \Rightarrow (\forall X3. ((\neg v1\_xboole\_0 X3) \wedge (m1\_subset\_1 \\
 & X3 (k1\_zfmisc\_1 (k30\_modelc\_1 X0)))) \Rightarrow (\forall X4. (m1\_subset\_1 \\
 & X4 (u1\_struct\_0 (k48\_modelc\_1 X0 X1 X3))) \Rightarrow (\forall X5. (m1\_subset\_1 \\
 & X5 (u1\_struct\_0 (k48\_modelc\_1 X0 X1 X3))) \Rightarrow ((r3\_modelc\_1 X0 X1 X3 \\
 & X2 (k28\_modelc\_1 (k48\_modelc\_1 X0 X1 X3) X4 X5) \Leftrightarrow ((r3\_modelc\_1 \\
 & X0 X1 X3 X2 X4) \vee (r3\_modelc\_1 X0 X1 X3 X2 X5))))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. ((\neg v1\_xboole\_0 \\
& X0) \wedge (((v1\_partfun1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& X0 X0)))) \wedge (((\neg v1\_xboole\_0 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 ( \\
& k30\_modelc\_1 X0)))) \wedge ((m1\_subset\_1 X3 (u1\_struct\_0 (k48\_modelc\_1 \\
& X0 X1 X2))) \wedge (m1\_subset\_1 X4 (u1\_struct\_0 (k48\_modelc\_1 X0 X1 X2)))))) \Rightarrow \\
& (m1\_subset\_1 (k53\_modelc\_1 X0 X1 X2 X3 X4) (u1\_struct\_0 (k48\_modelc\_1 \\
& X0 X1 X2)))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((v1\_partfun1 X1 X0) \wedge \\
& (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0)))) \Rightarrow (\forall X2. \\
& ((\neg v1\_xboole\_0 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k30\_modelc\_1 \\
& X0)))) \Rightarrow (\forall X3. (m1\_subset\_1 X3 (u1\_struct\_0 (k48\_modelc\_1 \\
& X0 X1 X2))) \Rightarrow (\forall X4. (m1\_subset\_1 X4 (u1\_struct\_0 (k48\_modelc\_1 \\
& X0 X1 X2))) \Rightarrow (\forall X5. (m1\_subset\_1 X5 (u1\_struct\_0 (k48\_modelc\_1 \\
& X0 X1 X2))) \Rightarrow (k59\_modelc\_1 X0 X1 X2 X3 X4 X5 = k28\_modelc\_1 (k48\_modelc\_1 \\
& X0 X1 X2) X4 (k53\_modelc\_1 X0 X1 X2 X3 X5))))))
\end{aligned} \tag{4}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((v1\_partfun1 X1 X0) \wedge \\
& (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0)))) \Rightarrow (\forall X2. \\
& ((\neg v1\_xboole\_0 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k30\_modelc\_1 \\
& X0)))) \Rightarrow (\forall X3. (m1\_subset\_1 X3 (u1\_struct\_0 (k48\_modelc\_1 \\
& X0 X1 X2))) \Rightarrow (\forall X4. (m1\_subset\_1 X4 (u1\_struct\_0 (k48\_modelc\_1 \\
& X0 X1 X2))) \Rightarrow (\forall X5. (m1\_subset\_1 X5 (u1\_struct\_0 (k48\_modelc\_1 \\
& X0 X1 X2))) \Rightarrow (\forall X6. (m1\_subset\_1 X6 (u1\_struct\_0 (k48\_modelc\_1 \\
& X0 X1 X2))) \Rightarrow ((\forall X7. (m1\_subset\_1 X7 X0) \Rightarrow ((r3\_modelc\_1 X0 \\
& X1 X2 X7 X5) \Rightarrow (r3\_modelc\_1 X0 X1 X2 X7 X6))) \Rightarrow (\forall X7. (m1\_subset\_1 \\
& X7 X0) \Rightarrow ((r3\_modelc\_1 X0 X1 X2 X7 (k59\_modelc\_1 X0 X1 X2 X3 X4 X5)) \Rightarrow \\
& (r3\_modelc\_1 X0 X1 X2 X7 (k59\_modelc\_1 X0 X1 X2 X3 X4 X6)))))))))
\end{aligned}$$